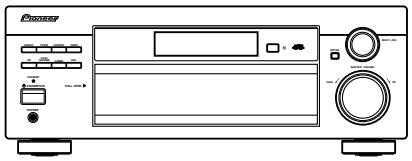
Pioneer *sound.vision.soul*

Service Manual



VSX-D712-K

ORDER NO.
RRV2731

AUDIO/VIDEO MULTI-CHANNEL RECEIVER

VSX-D712-K

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
VSX-D712-K	KUXJI	AC120V	
VSX-D712-K	KCXJI	AC120V	

For details, refer to "Important symbols for good services".

PIONEER CORPORATION 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS (USA) INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
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ⓒ**PIONEER CORPORATION 2003**

T-ZZK FEB. 2003 printed in Japan

SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65

NOTICE

(FOR CANADIAN MODEL ONLY)

Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

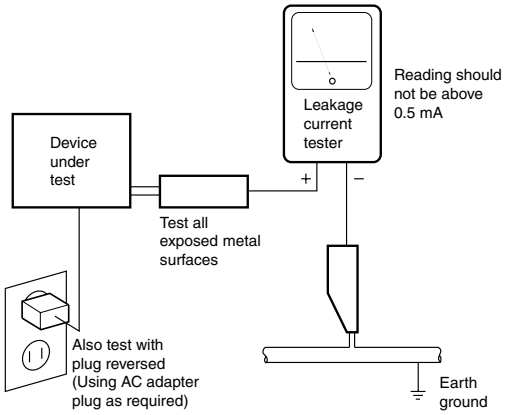
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60 Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5 mA.


Reading should not be above 0.5 mA
Leakage current tester
Device under test
+
–
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

[Important symbols for good services]
In this manual, the symbols shown-below indicate that adjustments, settings or cleaning should be made securely.
When you find the procedures bearing any of the symbols, be sure to fulfill them:

1. Product safety

You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.

2. Adjustments

To keep the original performances of the product, optimum adjustments or specification confirmation is indispensable. In accordance with the procedures or instructions described in this manual, adjustments should be performed.

3. Cleaning

For optical pickups, tape-deck heads, lenses and mirrors used in projection monitors, and other parts requiring cleaning, proper cleaning should be performed to restore their performances.

4. Shipping mode and shipping screws

To protect the product from damages or failures that may be caused during transit, the shipping mode should be set or the shipping screws should be installed before shipping out in accordance with this manual, if necessary.

5. Lubricants, glues, and replacement parts

Appropriately applying grease or glue can maintain the product performances. But improper lubrication or applying glue may lead to failures or troubles in the product. By following the instructions in this manual, be sure to apply the prescribed grease or glue to proper portions by the appropriate amount.For replacement parts or tools, the prescribed ones should be used.

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1. SPECIFICATIONS

Amplifier section

Continuous average power output of 100 watts* per channel, min., at 8 ohms, from 20 Hz to 20,000 Hz with no more than 0.2 %** total harmonic distortion (front).

Continuous power output (stereo)
Front. . . . . .100 W per channel
(20–20,000 Hz, THD 0.2 %, 8Ω)

Continuous power output (surround)
Front. . . . . .100 W per channel
(1kHz, 1.0 %, 8Ω)
Center . . . . . .100 W (1kHz, 1.0 %, 8 Ω)
Surround. . . . . .100 W per channel
(1kHz, 1.0 %, 8Ω)

Input (Sensitivity/Impedance)
CD, VCR/DVR, CD-R/TAPE/MD,
DVD/LD, TV/SAT . . . . . .200 mV/47 kΩ

Frequency response
CD, VCR/DVR, CD-R/TAPE/MD, DVD/LD,
TV/SAT. . . . . .5 Hz to 100,000 Hz $^{+0}_{-3}$dB

Output (Level/Impedance)
VCR/DVR REC, CD-R/TAPE/
MD REC. . . . . 200 mV/2.2 kΩ

Tone control
Bass. . . . . ± 6 dB (100 Hz)
Treble. . . . . ± 6 dB (10 kHz)
Loudness. . . . +6.5 dB/+3 dB (100 Hz/10 kHz)
(at volume level -50 dB)

Signal-to-Noise Ratio
(IHF, short circuited, A network)
CD, VCR/DVR, CD-R/TAPE/MD,
DVD/LD, TV/SAT . . . . . .96 dB

Signal-to Noise Ratio
EIA, at 1 W (1 kHz)
CD, VCR/DVR, CD-R/TAPE/MD,
DVD/LD, TV/SAT. . . . . 79 dB

Video section

Input (Sensitivity/Impedance)
VCR/DVR, DVD/LD, TV/SAT . . . . . 1 Vp-p/75 Ω

Output (Level/Impedance)
VCR/DVR, MONITOR OUT . . . . . 1 Vp-p/75 Ω

Frequency response
VCR/DVR, DVD/LD,
TV/SAT ⇨ MONITOR. . . . . 5 Hz to 7 MHz $^{+0}_{-3}$dB
Signal-to-Noise Ratio. . . . . 55 dB

Component video section

Input (Sensitivity)
DVD/LD, TV/SAT. . . . . 1 Vp-p/75 Ω

Output (Level/Impedance)
MONITOR OUT. . . . . 1 Vp-p/75 Ω

Frequency response
DVD/LD,
TV/SAT ⇨ MONITOR. . . . 5 Hz to 40 MHz $^{+0}_{-3}$dB
Signal-to-Noise Ratio. . . . . 55 dB

FM tuner section

Frequency Range. . . . . 87.5 MHz to 108 MHz
Usable Sensitivity . . . . . .Mono:13.2 dBf, IHF
(1.3 µV/ 75Ω)
50 dB Quieting Sensitivity. . . . . .Mono: 20.2 dB
. . . . . .Stereo: 38.6 dBf
Signal-to-Noise Ratio. . . . . Mono: 73 dB
(at 85 dBf)
Stereo: 70 dB (at 85 dBf)
Distortion . . . . . .Stereo: 0.5 % (1 kHz)
Alternate Channel Selectivity. . . . . 60 dB
(400 kHz)

Stereo Separation . . . . . .40 dB (1 kHz)
Frequency Response. . . . . 30 Hz to 15 kHz (±1 dB)
Antenna Input (DIN) . . . . . .75 Ω unbalanced

AM tuner section

Frequency Range. . . . . .530 kHz to 1,700 kHz
Sensitivity (IHF, Loop antenna). . . . . 350 µV/m
Selectivity. . . . . 25 dB
Signal-to-Noise Ratio. . . . . 50 dB
Antenna . . . . . .Loop antenna

Miscellaneous

Power Requirements. . . . . AC 120 V, 60Hz
Power Consumption
VSX-D712. . . . . .260W, 340 VA

In standby. . . . . 0.5 W
AC Outlet . . . . . 100 W MAX. (SWITCHED)
Dimensions . . .420 (W) x 158 (H) x 401 (D) mm
(16-9/16 (W) x 6-4/16 (H) x 15-6/16 (D) in.)
Weight (without package)
VSX-D712. . . . . .9.0 kg (19.8 lb)

Furnished parts

AM loop antenna. 1
FM wire antenna 1
AA/R6 dry cell batteries. 2
Remote control. 1
These operating instructions. 1

Note

- Specifications and the design are subject to possible modifications without notice, due to improvements.

* Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claims for Amplifiers.
** Measured by Audio Spectrum Analyzer.

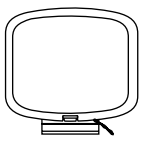
Cleaning the unit

- Use a polishing cloth or dry cloth to wipe off dust and dirt.
- When the surface is dirty, wipe with a soft cloth dipped in some neutral cleanser diluted five or six times with water, and wrung out well, and then wipe again with a dry cloth. Do not use furniture wax or cleansers.
- Never use thinners, benzine, insecticide sprays or other chemicals on or near this unit, since these will corrode the surface.

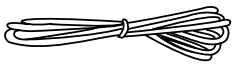
Manufactured under license from Dolby Laboratories. "Dolby", "Pro Logic", "Surround EX", and the double-D symbol are trademarks of Dolby Laboratories.

"DTS" ,"DTS-ES Extended Surround" and "Neo:6" are trademarks of Digital Theater Systems, Inc.

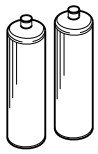
Accessories



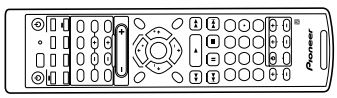
AM loop antenna
(ATB7009)



FM wire antenna
(ADH7004)



AA size IEC R6P
Dry cell batteries (x2)

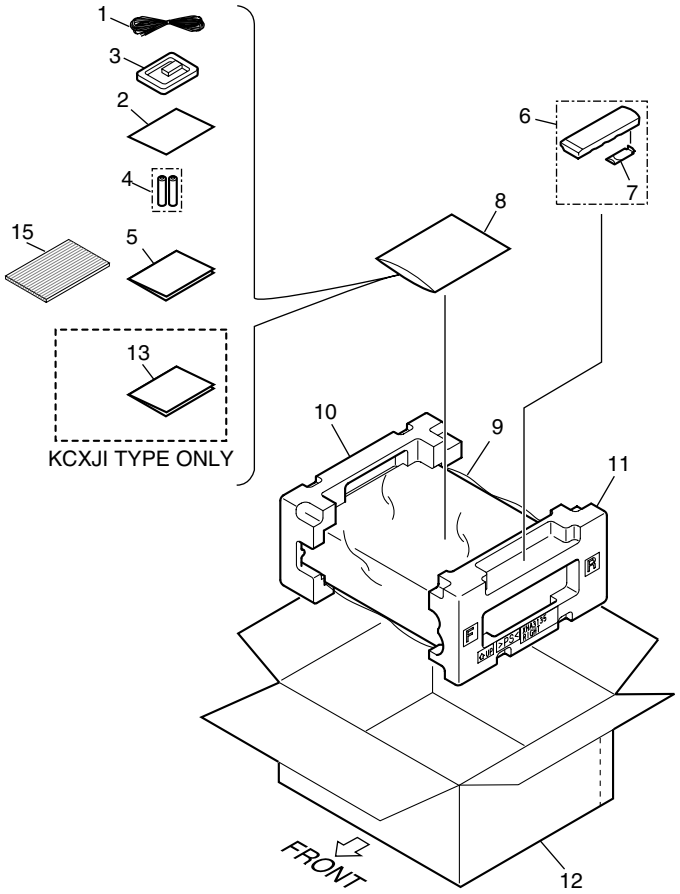


Remote control unit
(VSX-D812 : XXD3051)

2. EXPLODED VIEWS AND PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

2.1 PACKING



PACKING parts List

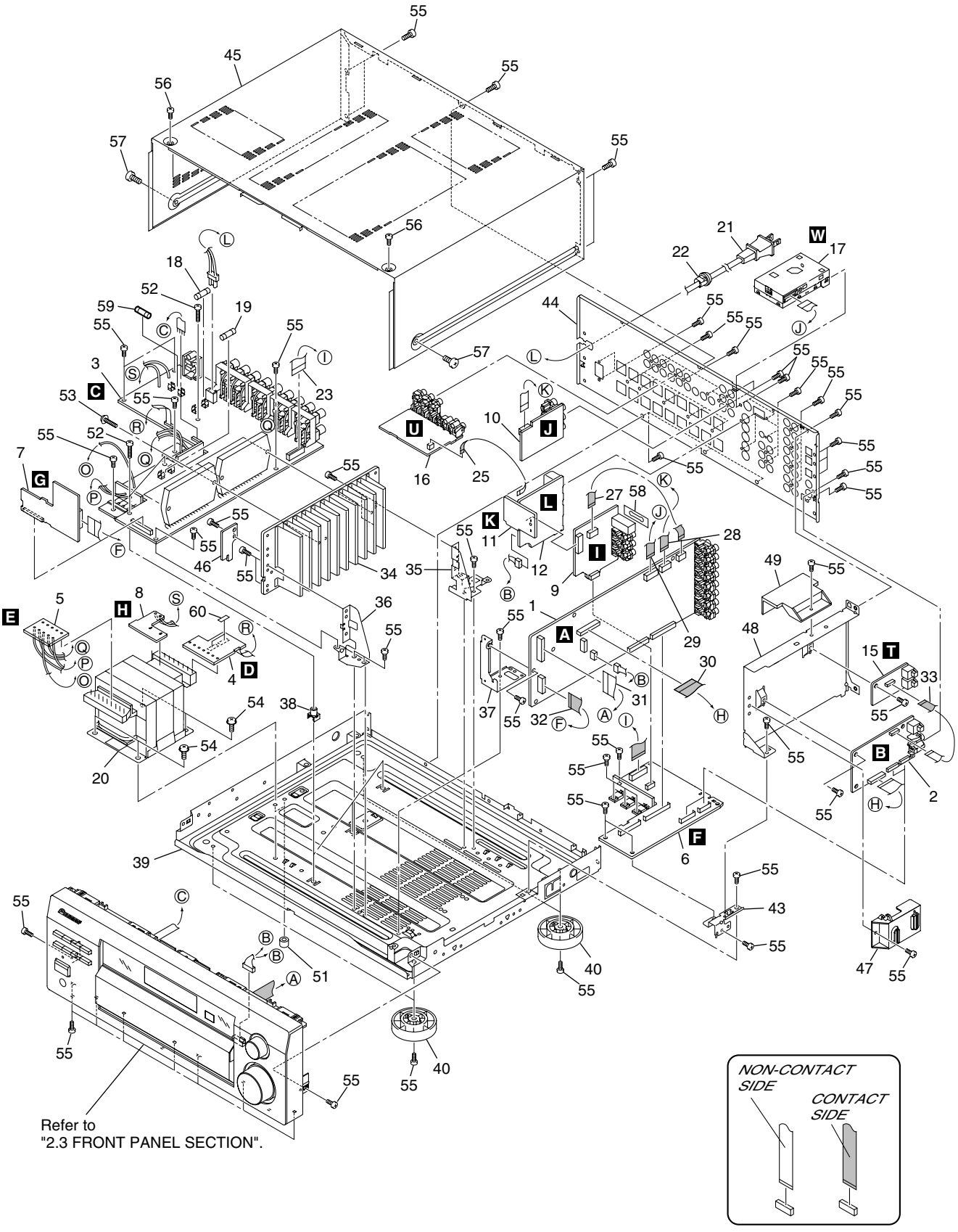
Mark	No.	Description	Part No.
	1	FM wire antenna	ADH7004
NSP	2	Warranty Card	ARY7045
	3	AM loop antenna	ATB7009
NSP	4	Dry cell batteries (AA/LR6)	VEM1031
	5	Operating instructions (English)	XRB3020
	6	Remote Control Unit	XXD3051
	7	Battery Cover	AZA7424
NSP	8	Literature Bag	AHG1180
	9	Packing Sheet	AHG7069
	10	Left Pad R6	XHA3134
	11	Right Pad R6	XHA3135
	12	Packing Case	XHD3325
	13	Operating Instructions (French)	See Contrast table(2)
	14	•••••	
NSP	15	Accessory Board R6	XHB3008

(2) CONTRAST TABLE

VSX-D712-K/KUXJI and VSX-D712-K/KCXJI are constructed the same except for the following:

Mark	NO	Symbol and Description	VSX-D712-K/ KUXJI	VSX-D712-K/ KCXJI
	13	Operating Instructions (French)	Not used	XRC3078

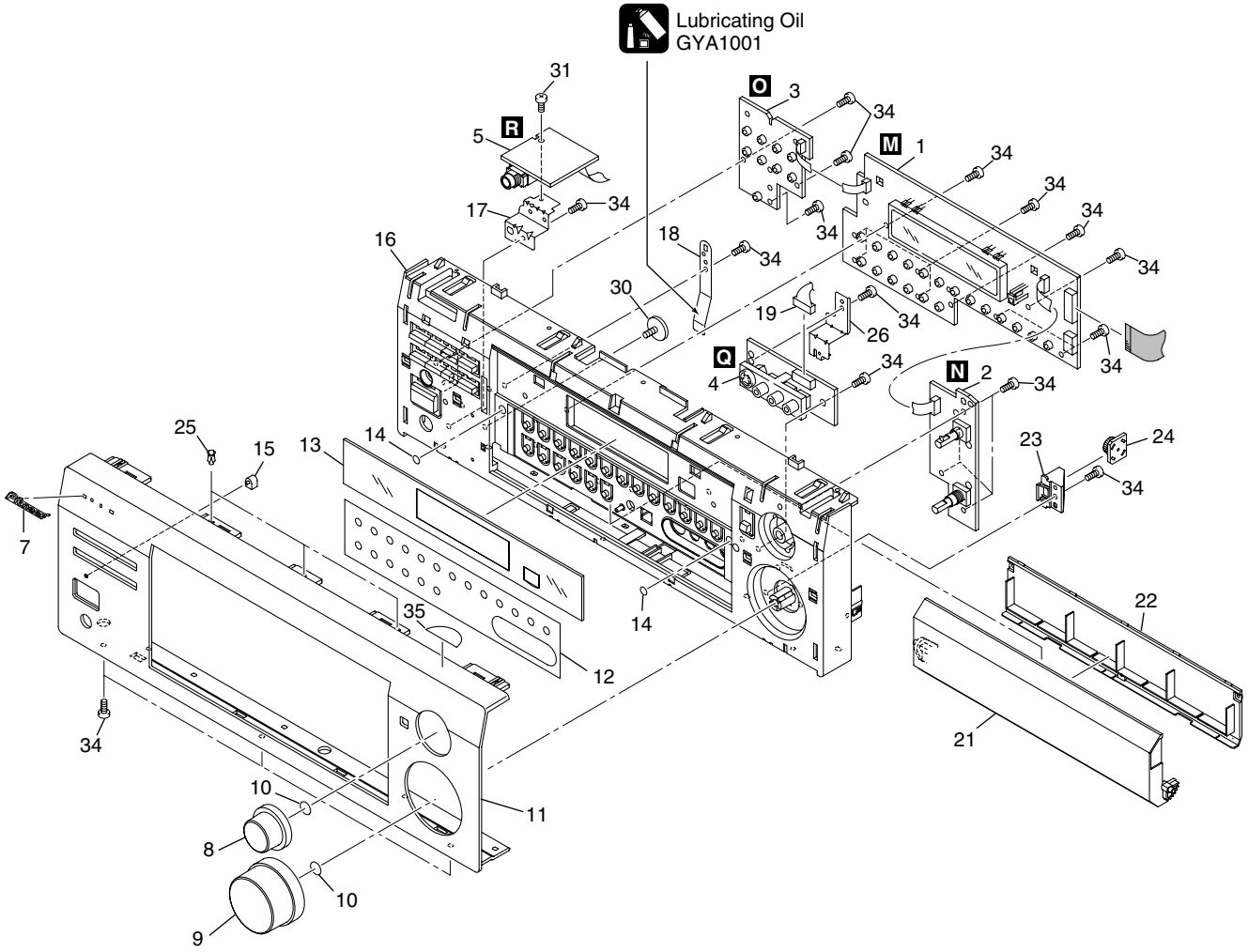
2.2 EXTERIOR SECTION



EXTERIOR SECTION parts List

Mark	No.	Description	Part No.
	1	MAIN Assy	XWK3091
	2	DSP Assy	AWX1083
	3	AMP Assy	XWZ3666
	4	TRANS2 Assy	XWZ3682
	5	TRANS3 Assy	XWZ3686
	6	REGULATOR Assy	XWZ3675
	7	AMP INPUT Assy	XWZ3677
	8	TRANS1 Assy	XWZ3680
	9	VIDEO Assy	XWZ3644
	10	6CH IN Assy	XWZ3649
	11	BOARD TO BOARD Assy	XWZ3664
	12	S. VIDEO Assy	XWZ3660
	13	•••••	
	14	•••••	
	15	DIGITAL IN Assy	XWZ3657
	16	COMPONENT Assy	XWZ3661
	17	FM/AM TUNER MODULE	AXQ7231
⚠	18	FU1 Fuse (10A)	REK1087
⚠	19	FU701 Fuse (10A)	REK1087
⚠	20	T1 Power Transformer	XTS3058
⚠	21	AC Power Cord	ADG7024
	22	Cord Stopper	CM-22C
	23	J36 23P F.F.C/30V	XDD3102
	24	•••••	
	25	J38 5P F.F.C/30V	XDD3104
	26	•••••	
	27	J33 11P F.F.C/30V	XDD3123
	28	J48 9P F.F.C/30V	XDD3124
	29	J34 13P F.F.C/30V	XDD3122
	30	J43 19P F.F.C/30V	XDD3126
	31	J31 17P F.F.C/30V	XDD3118
	32	J35 19P F.F.C/30V	XDD3101
	33	J37 10P F.F.C/30V	XDD3127
NSP	34	Heatsink R6A CORR	ANH7112
	35	H/S Angle Rear	ANG7252
	36	H/S Angle Front	ANG7251
	37	PCB Angle R5	XNG3073
	38	PCB Mold	AMR2533
NSP	39	Under Base R6	XNA3012
	40	Insulator	PNW2766
	41	•••••	
	42	•••••	
	43	REG Support R6	XNG3093
	44	Rear Panel 712K	XNC3186
	45	Bonnet	XZN3126
NSP	46	HOLDER Assy	XWZ3692
	47	FFC Holder R6	XMR3072
	48	Shield A R6	XNG3068
	49	FFC Cover R6	XMR3060
	50	•••••	
	51	Spacer	AEB7092
	52	Screw	BBZ30P200FMC
	53	Screw 3x23	ABA7043
	54	Screw	FBT40P080FZK
	55	Screw	BBZ30P080FZK
	56	Screw	BPZ30P080FZK
	57	Screw	FBT40P080FZK
	58	Vjack Spacer R6	XEC3038
⚠	59	FU2 Fuse (8A)	REK1086
NSP	60	ICP Label	XAX3319

2.3 FRONT PANEL SECTION



FRONT PANEL SECTION parts List

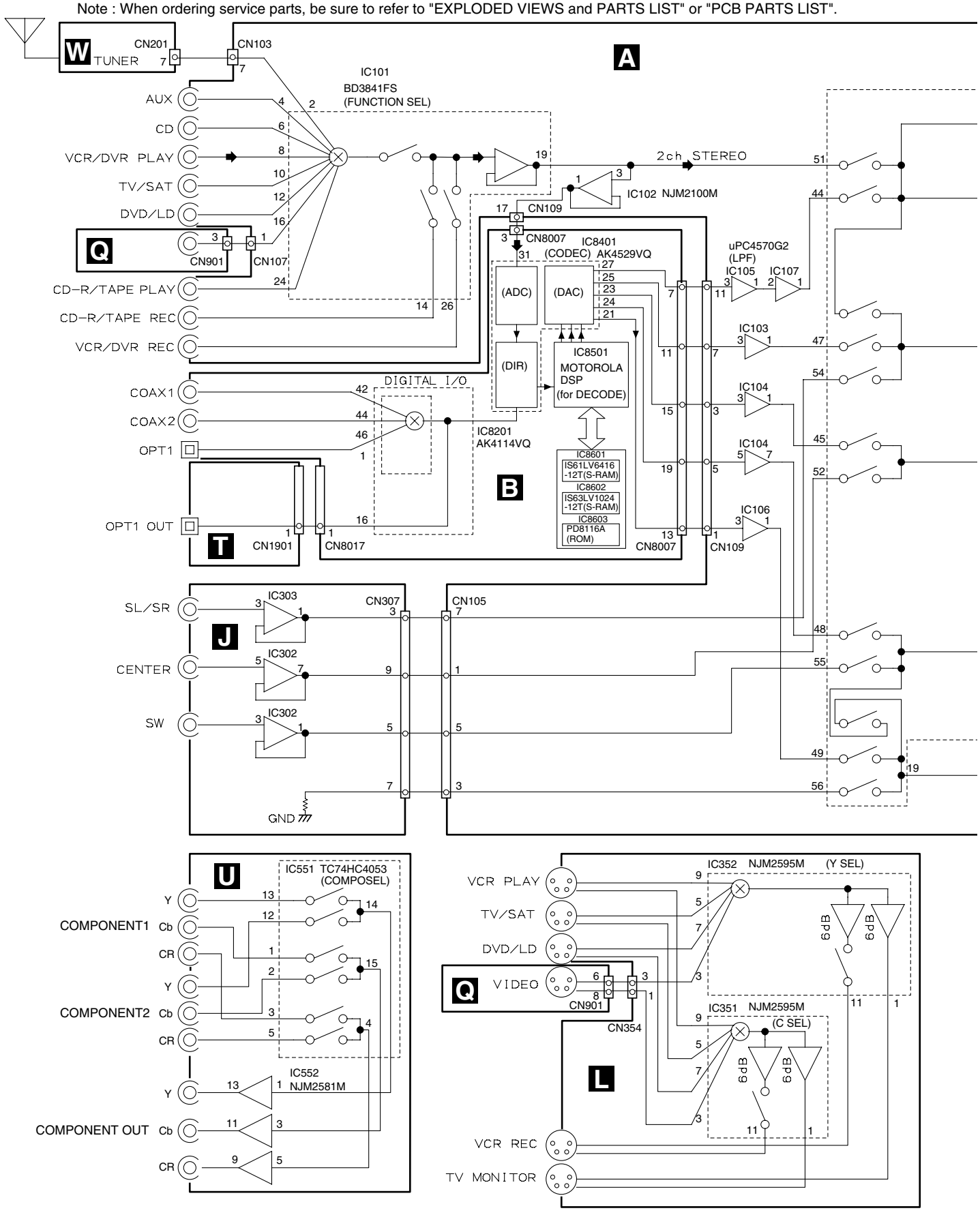
Mark	No.	Description	Part No.
	1	FRONT ASSY	XWZ3648
	2	R. ENCODER Assy	XWZ3652
	3	POWER SW Assy	XWZ3651
	4	FRONT VIDEO Assy	XWZ3655
	5	H.P. Assy	XWZ3654
	6	•••••	
	7	Pioneer Badge B	XAM3006
	8	Select Knob	XAB3023
	9	Volume Knob	XAB3025
NSP	10	C Ring DIM 8.1	XBH3016
	11	FRT Panel	XMB3096
	12	BN Cover	XAK3355
	13	D Panel R6 W	XAK3348
	14	Cushion	XED3001
	15	LED Lens	PNW2019
	16	Panel Stay	XMB3093
	17	Earth Plate R5 HP	XNG3066
	18	Door Spring R6	XBK3002
	19	J29 8P Shield Cable	XDX3012
	20	•••••	
	21	Door	XAK3356
	22	Door Cover	XAK3358
	23	Holder L R6	XMR3059
	24	Damper Assy	XXA3025
	25	Push Rivet	AEC7025
	26	Earth Plate FI R6	XNG3091
	27	•••••	
	28	•••••	
	29	•••••	
	30	Screw	XBA3010
	31	Screw	BBZ30P080FZK
	32	•••••	
	33	•••••	
	34	Screw	PPZ30P100FMC
NSP	35	Energy Star Label	AAX7876

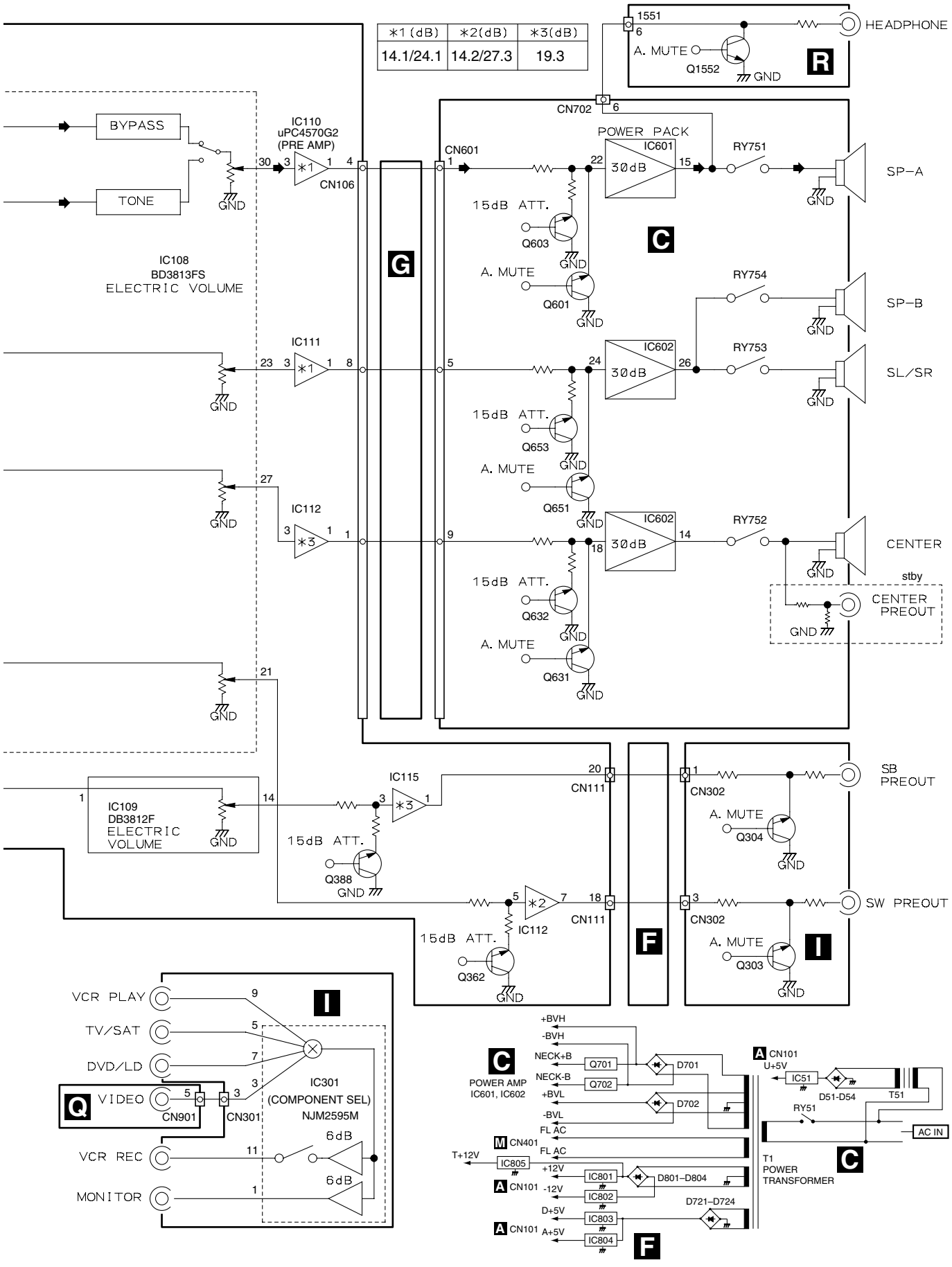
A B C D E F

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

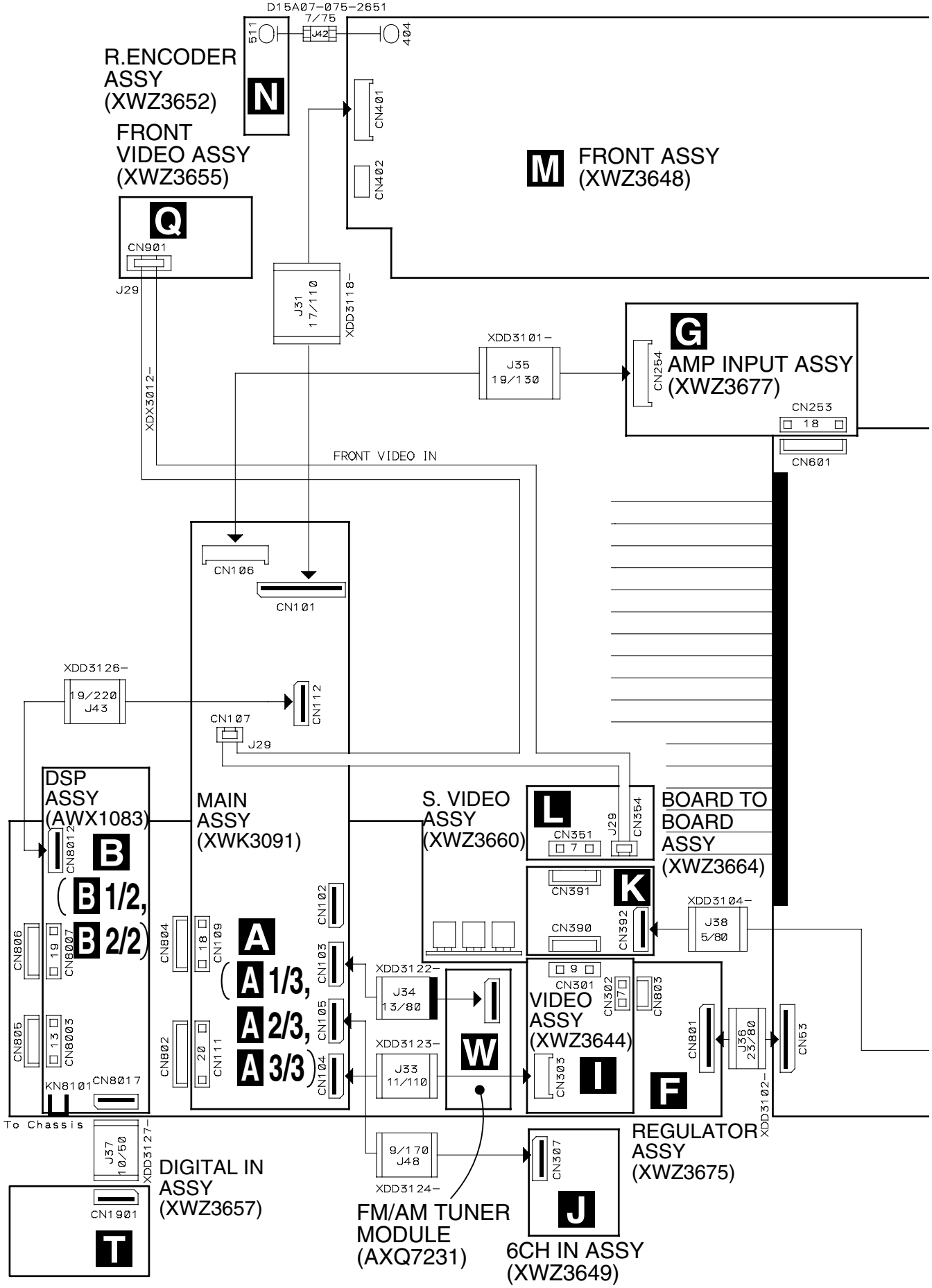
3.1 BLOCK DIAGRAM

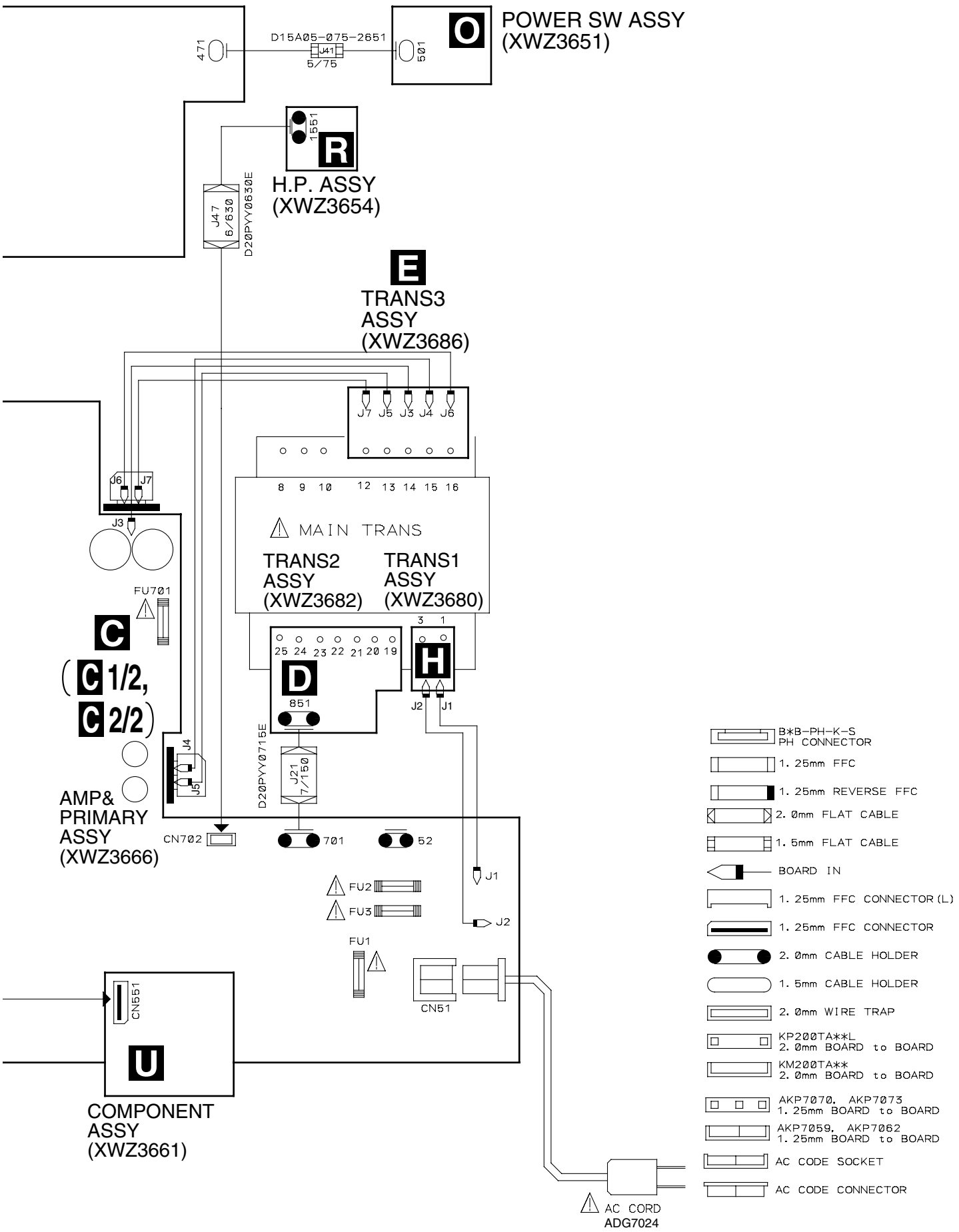
Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".



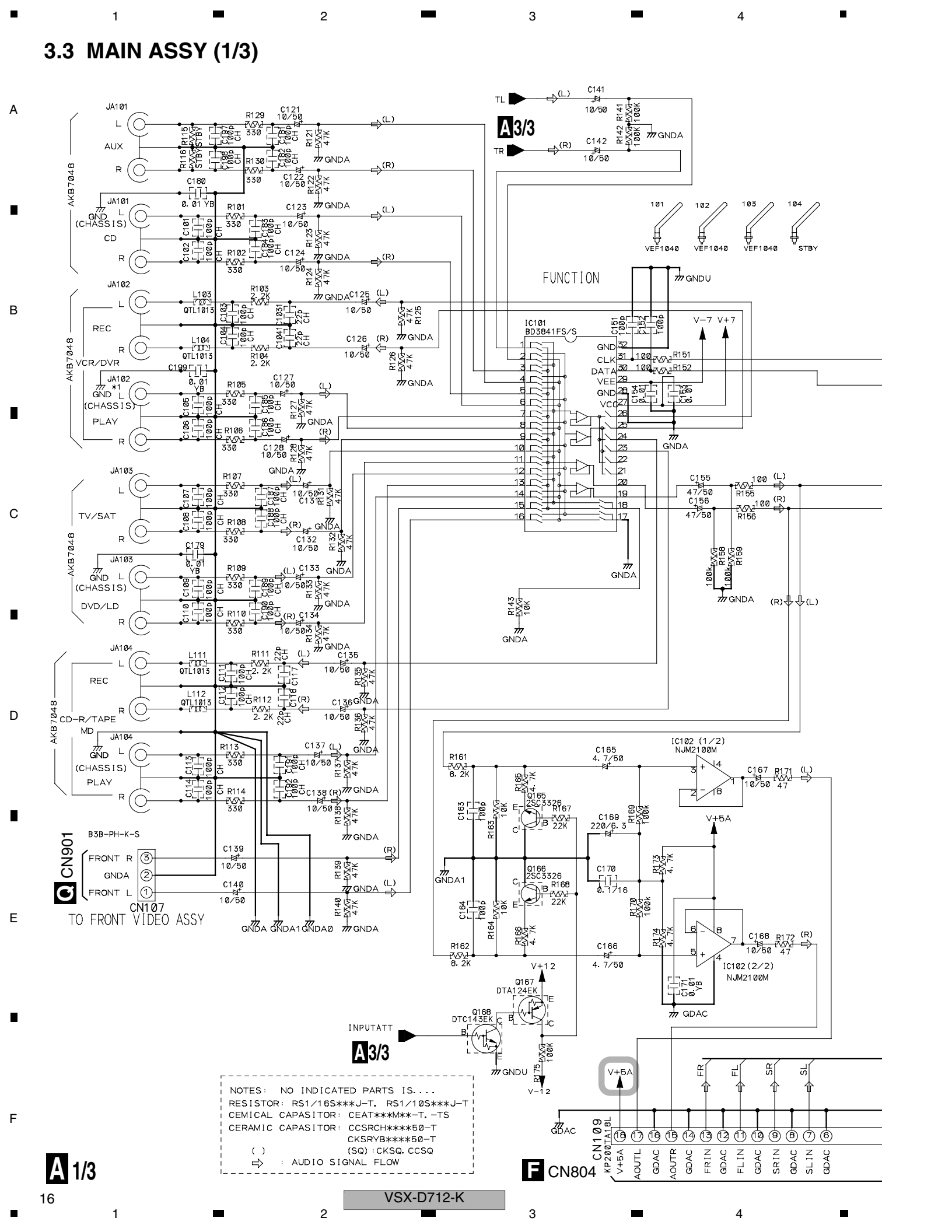

∗1 (dB)
∗2(dB)
∗3(dB)
14.1/24.1
14.2/27.3
19.3
1551
6
A. MUTE
Q1552
GND
R
HEADPHONE
CN702
6
POWER PACK
IC601
30dB
RY751
SP–A
BYPASS
TONE
IC110
uPC4570G2
(PRE AMP)
30
3
∗1
1
4
CN106
CN601
1
22
15
15dB ATT.
Q603
GND
A. MUTE
Q601
G
C
IC108
BD3813FS
ELECTRIC VOLUME
RY754
SP–B
IC111
23
8
5
24
IC602
30dB
26
RY753
SL/SR
15dB ATT.
Q653
A. MUTE
Q651
27
IC112
∗3
9
18
IC602
30dB
14
RY752
CENTER
stby
CENTER
PREOUT
15dB ATT.
Q632
A. MUTE
Q631
21
IC109
DB3812F
ELECTRIC
VOLUME
14
IC115
20
CN111
CN302
SB
PREOUT
A. MUTE
Q304
15dB ATT.
Q388
∗2
5
7
18
CN111
IC112
CN302
SW PREOUT
15dB ATT.
Q362
F
A. MUTE
Q303
I
VCR PLAY
TV/SAT
DVD/LD
VIDEO
CN901
CN301
IC301
(COMPONENT SEL)
NJM2595M
6dB
VCR REC
MONITOR
Q
+BVH
-BVH
NECK+B
NECK-B
+BVL
-BVL
FL AC
Q701
Q702
D701
D702
POWER AMP
IC601, IC602
M CN401
T+12V
IC805
+12V
-12V
D+5V
A+5V
IC801
IC802
IC803
IC804
D801–D804
D721–D724
A CN101
CN101
U+5V
IC51
D51-D54
T51
RY51
AC IN
T1
POWER
TRANSFORMER

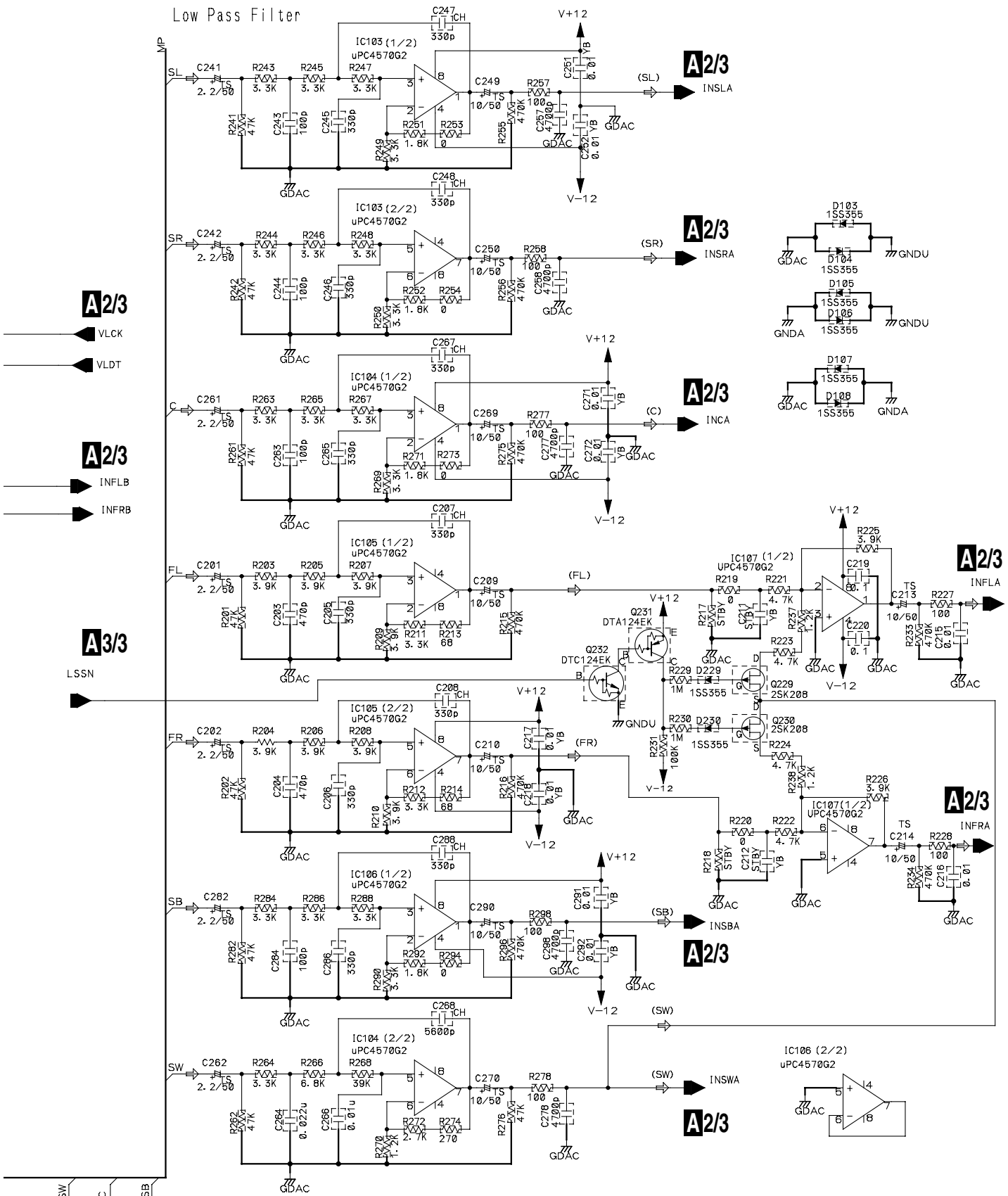
3.2 OVERALL WIRING CONNECTION DIAGRAM




POWER SW ASSY
(XWZ3651)
O
D15A05-075-2651
J41
5/75
471
501
R
1551
H.P. ASSY
(XWZ3654)
J47
6/630
D20PYY0630E
E
TRANS3
ASSY
(XWZ3686)
J7 J5 J3 J4 J6
8 9 10 12 13 14 15 16
MAIN TRANS
TRANS2
ASSY
(XWZ3682)
TRANS1
ASSY
(XWZ3680)
J6 J7
J3
FU701
C
(C 1/2,
C 2/2)
AMP&
PRIMARY
ASSY
(XWZ3666)
25 24 23 22 21 20 19
D
851
3 1
H
J2 J1
J4
J5
D20PYY0715E
J21
7/150
CN702
701
52
FU2
FU3
FU1
J1
J2
CN51
CN551
U
COMPONENT
ASSY
(XWZ3661)
AC CORD
ADG7024
B*B-PH-K-S
PH CONNECTOR
1.25mm FFC
1.25mm REVERSE FFC
2.0mm FLAT CABLE
1.5mm FLAT CABLE
BOARD IN
1.25mm FFC CONNECTOR (L)
1.25mm FFC CONNECTOR
2.0mm CABLE HOLDER
1.5mm CABLE HOLDER
2.0mm WIRE TRAP
KP200TA**L
2.0mm BOARD to BOARD
KM200TA**
2.0mm BOARD to BOARD
AKP7070, AKP7073
1.25mm BOARD to BOARD
AKP7059, AKP7062
1.25mm BOARD to BOARD
AC CODE SOCKET
AC CODE CONNECTOR

3.3 MAIN ASSY (1/3)

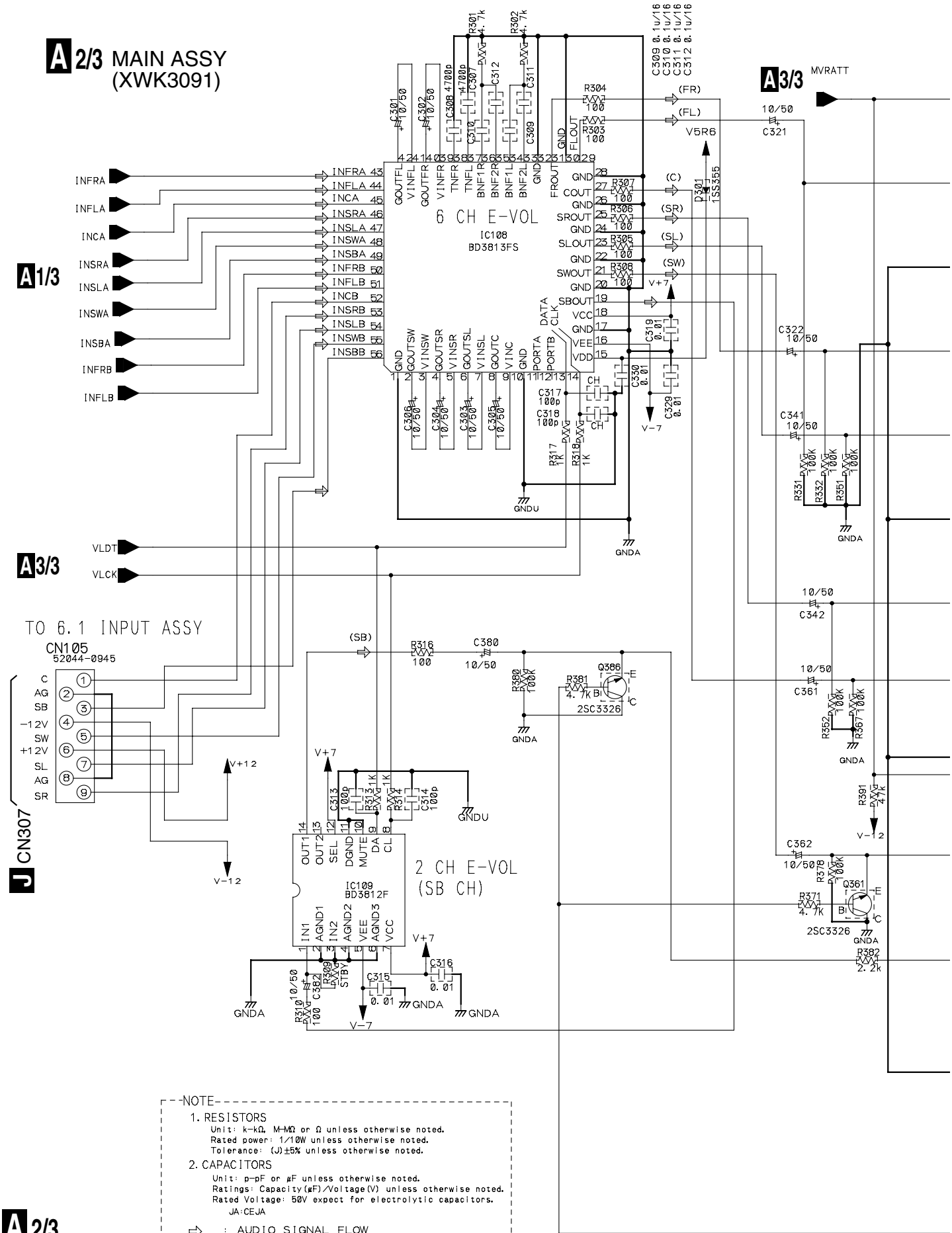




A 1/3 MAIN ASSY (XWK3091)

: The power supply is shown with the marked box.

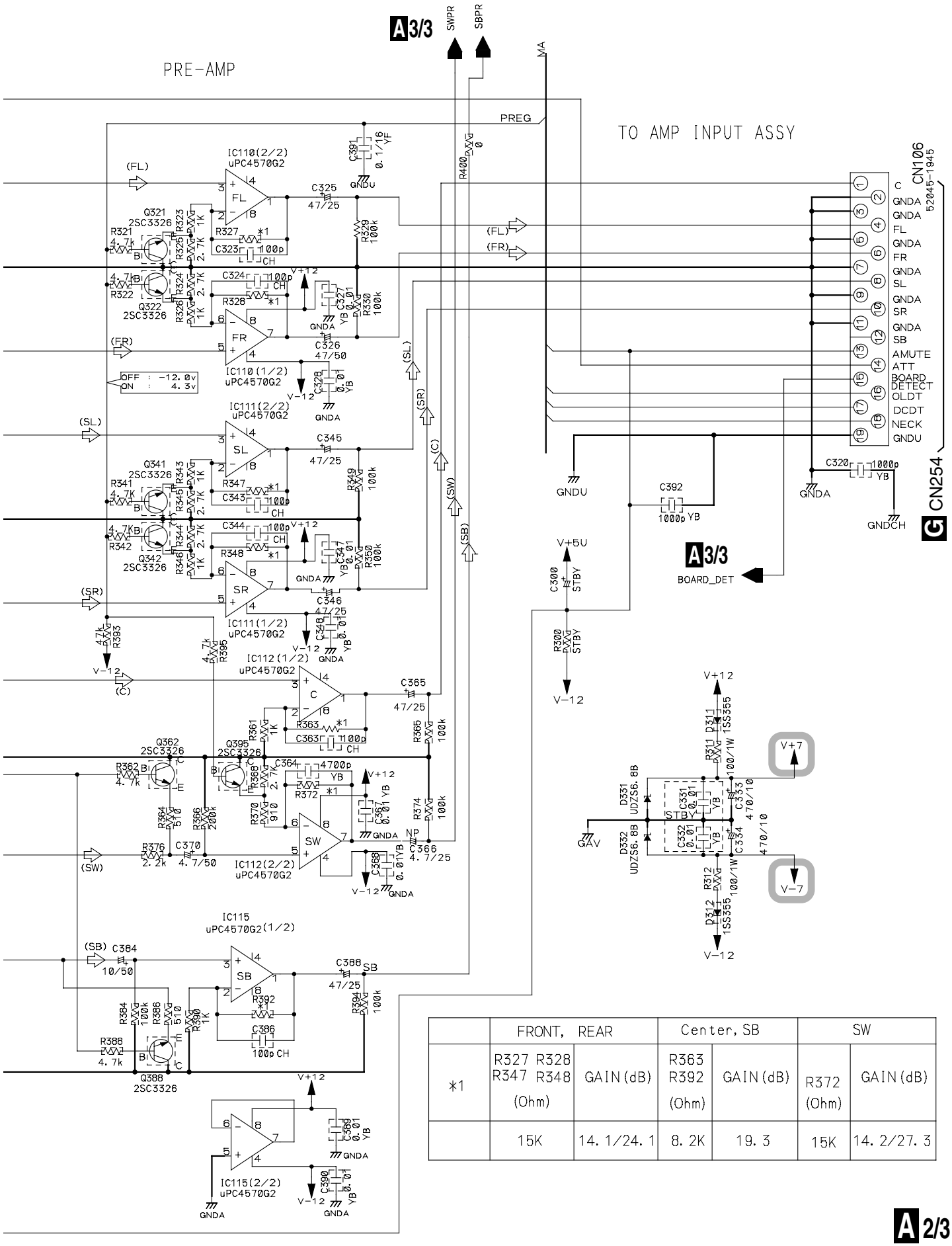
3.4 MAIN ASSY (2/3)



NOTE

1. RESISTORS
   Unit: k-kΩ, M-MΩ or Ω unless otherwise noted.
   Rated power: 1/10W unless otherwise noted.
   Tolerance: (J)±5% unless otherwise noted.
2. CAPACITORS
   Unit: p-pF or μF unless otherwise noted.
   Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.
   Rated Voltage: 50V expect for electrolytic capacitors.
   JA:CEJA

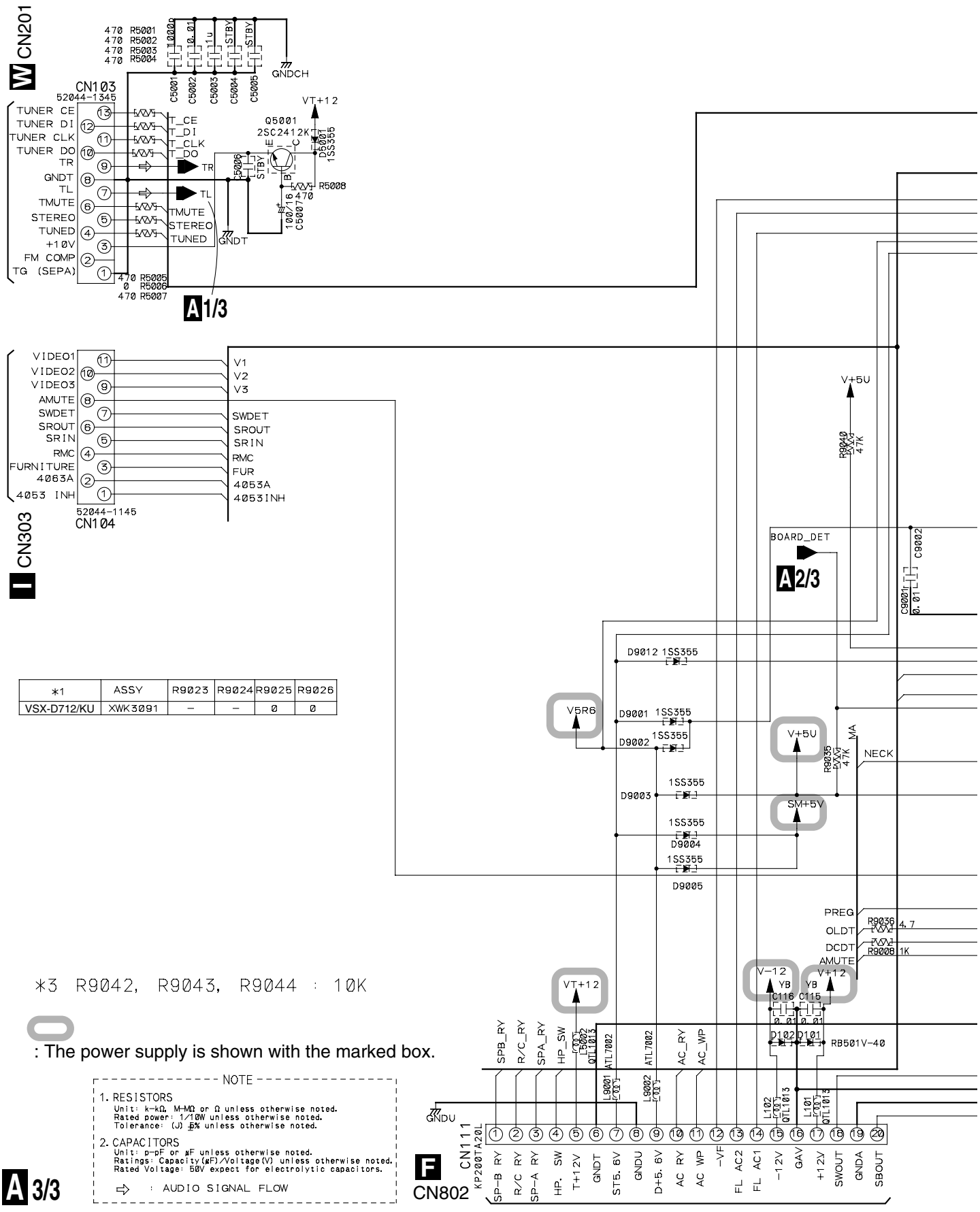
⇨ : AUDIO SIGNAL FLOW



	FRONT, REAR		Center, SB		SW	
*1	R327 R328 R347 R348 (Ohm)	GAIN(dB)	R363 R392 (Ohm)	GAIN(dB)	R372 (Ohm)	GAIN(dB)
	15K	14.1/24.1	8.2K	19.3	15K	14.2/27.3

A2/3

3.5 MAIN ASSY (3/3)



*1	ASSY	R9023	R9024	R9025	R9026
VSX-D712/KU	XWK3091	–	–	0	0

*3 R9042, R9043, R9044 : 10K

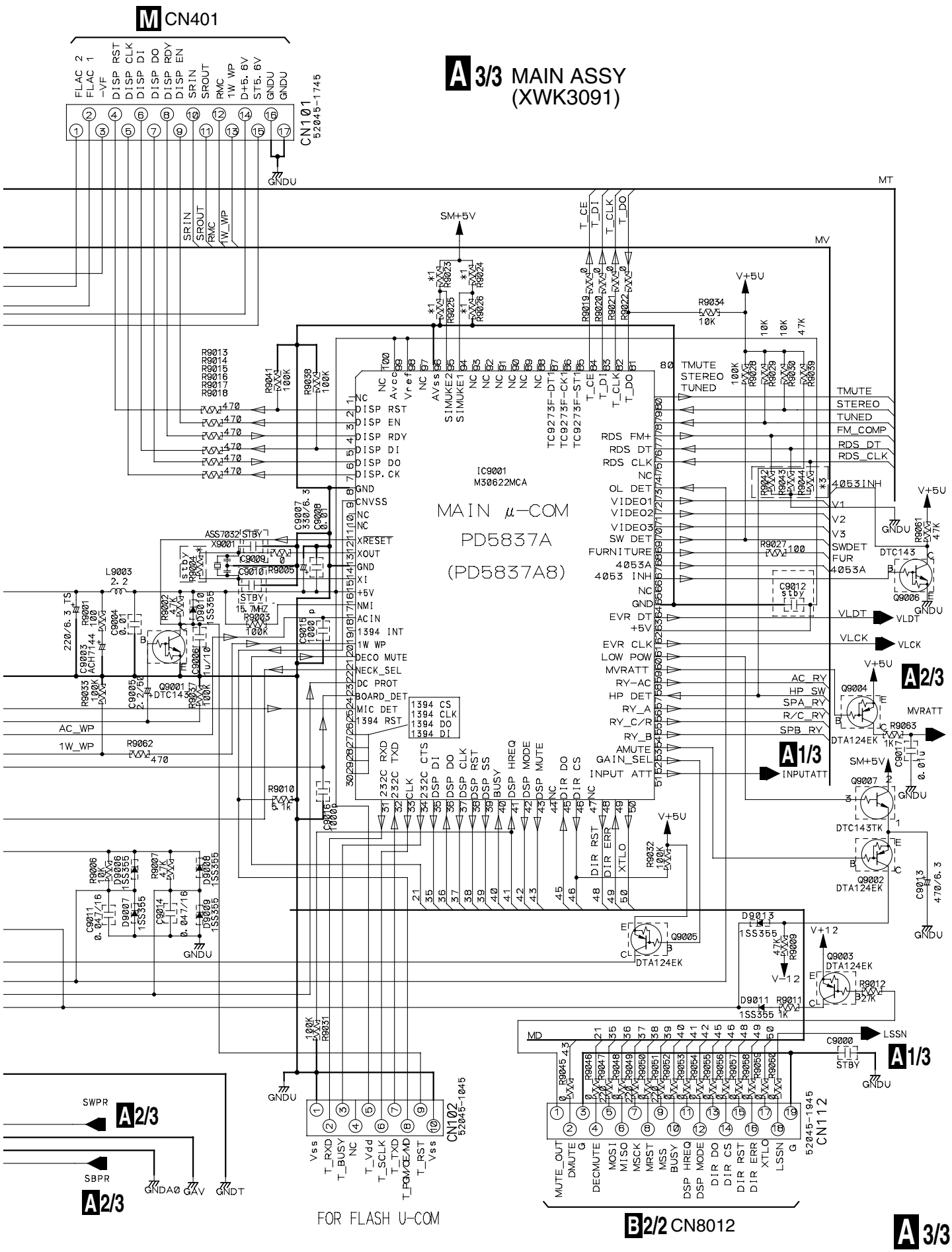
: The power supply is shown with the marked box.

NOTE

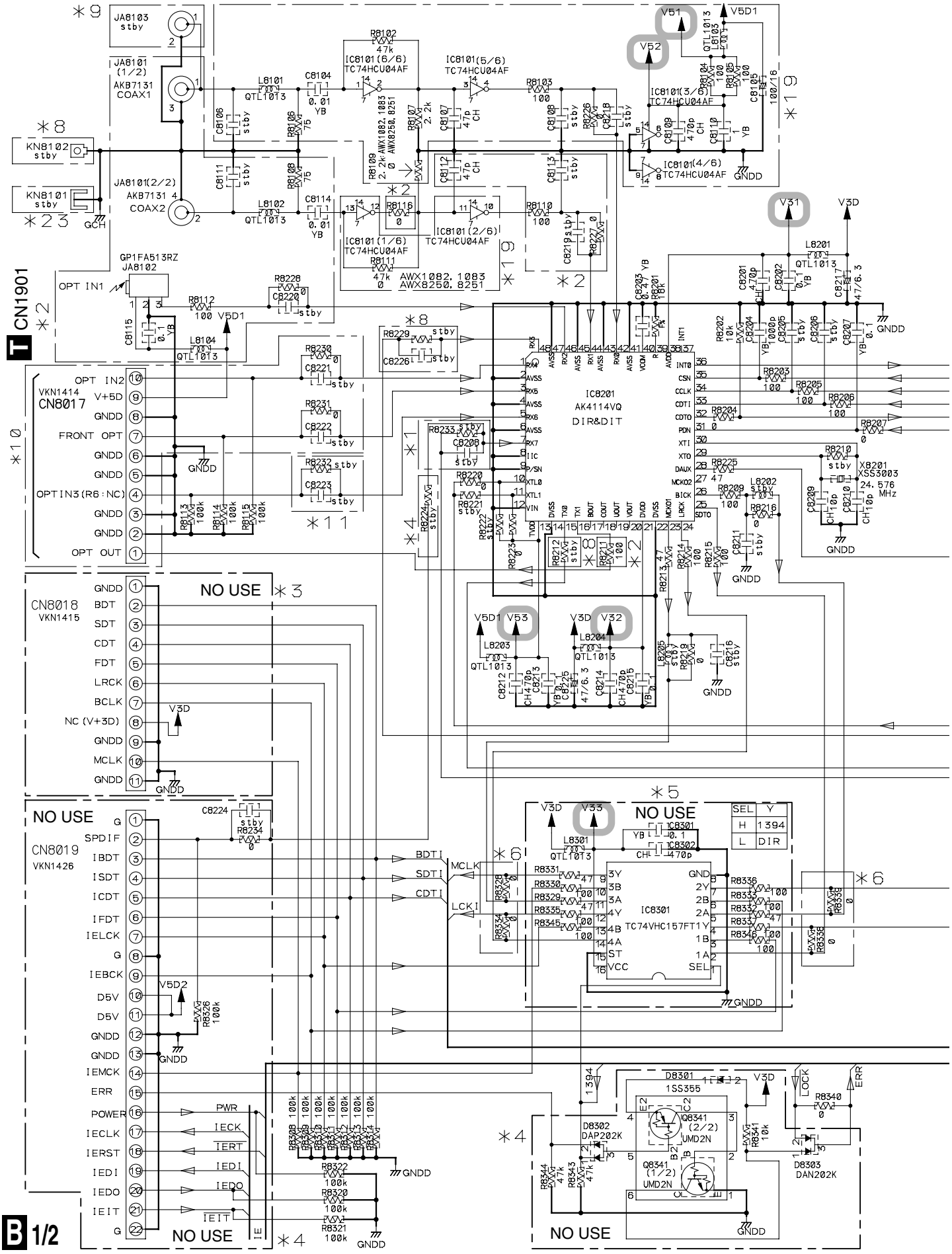
1. RESISTORS
   Unit: k-kΩ, M-MΩ or Ω unless otherwise noted.
   Rated power: 1/10W unless otherwise noted.
   Tolerance: (J) ±5% unless otherwise noted.
2. CAPACITORS
   Unit: p-pF or μF unless otherwise noted.
   Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.
   Rated Voltage: 50V expect for electrolytic capacitors.

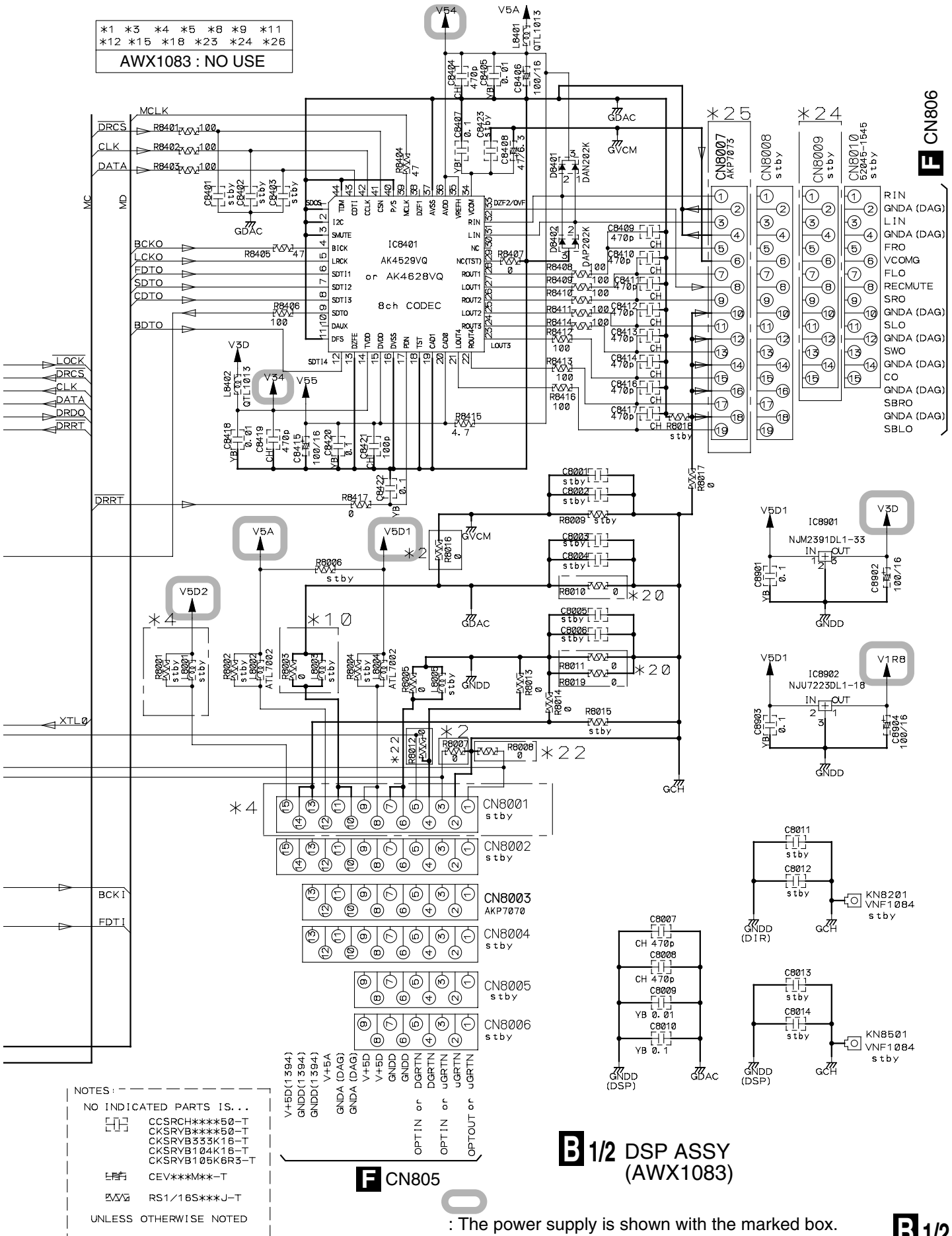
⇨ : AUDIO SIGNAL FLOW

A 3/3

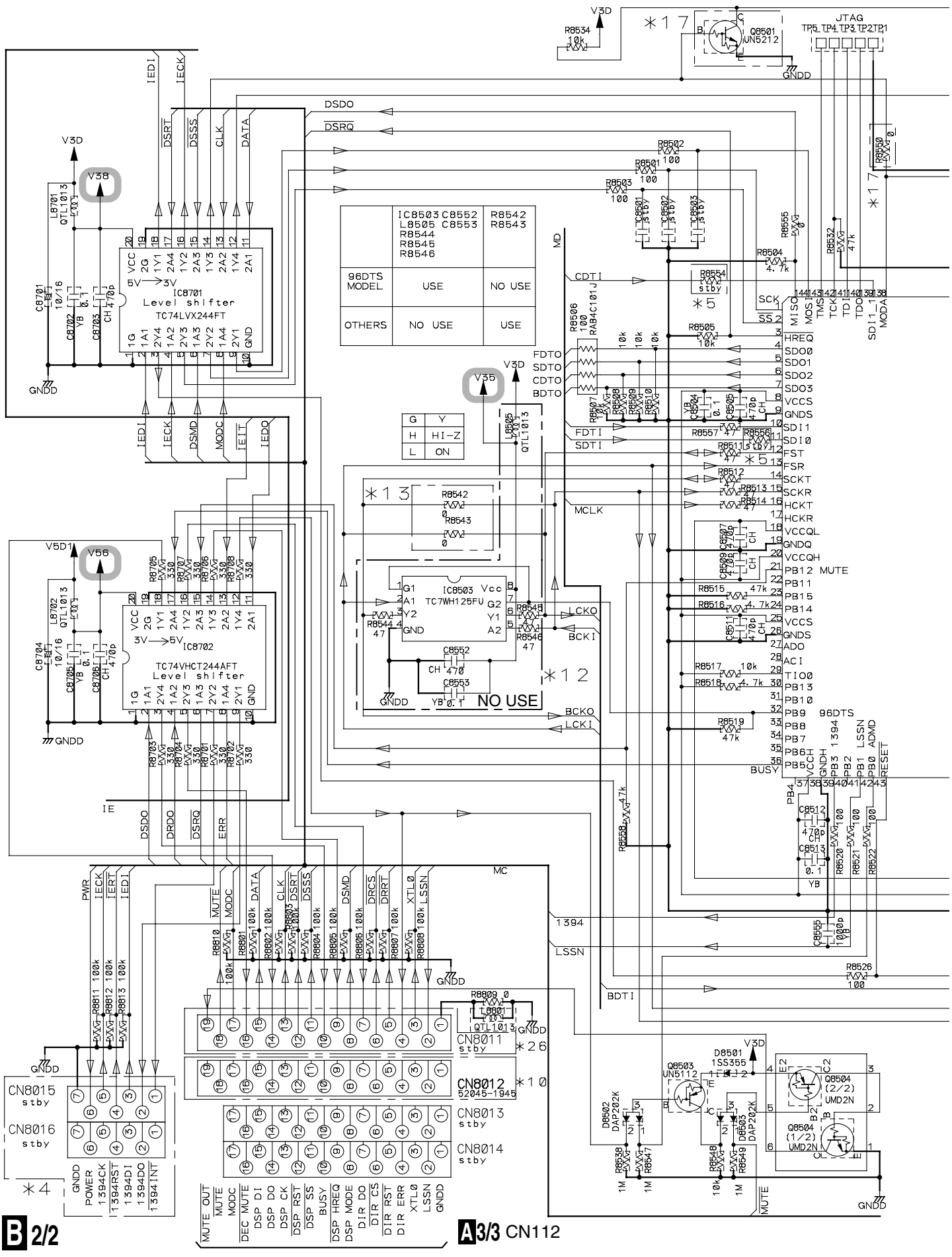

M CN401
A 3/3 MAIN ASSY
(XWK3091)
CN101
52045-1745
FLAC 2
FLAC 1
-VF
DISP RST
DISP CLK
DISP DI
DISP DO
DISP RDY
DISP EN
SRIN
SROUT
RMC
1W WP
D+5. 6V
ST5. 6V
GNDU
SM+5V
MT
MV
T_CE
T_DI
T_CLK
T_DO
V+5U
R9034
10K
IC9001
M30622MCA
MAIN μ-COM
PD5837A
(PD5837A8)
TMUTE
STEREO
TUNED
FM_COMP
RDS DT
RDS_CLK
4053INH
VLDT
VLCK
MVRATT
INPUTATT
AC_RY
HP_SW
SPA_RY
R/C_RY
SPB_RY
AC_WP
1W_WP
SWPR
SBPR
A 2/3
A 1/3
B 2/2 CN8012
CN102
52045-1045
CN112
52045-1945
LSSN
V+12
V-12
FOR FLASH U-COM
VSS
T_RXD
T_BUSY
NC
T_VDD
T_SCLK
T_TXD
T_PGMODE
T_RST
VSS
MUTE_OUT
DMUTE
G
DECMUTE
MOSI
MISO
MSCK
MRST
MSS
BUSY
DSP HREQ
DSP MODE
DIR DO
DIR CS
DIR RST
DIR ERR
XTLO
LSSN
G

3.6 DSP ASSY (1/2)

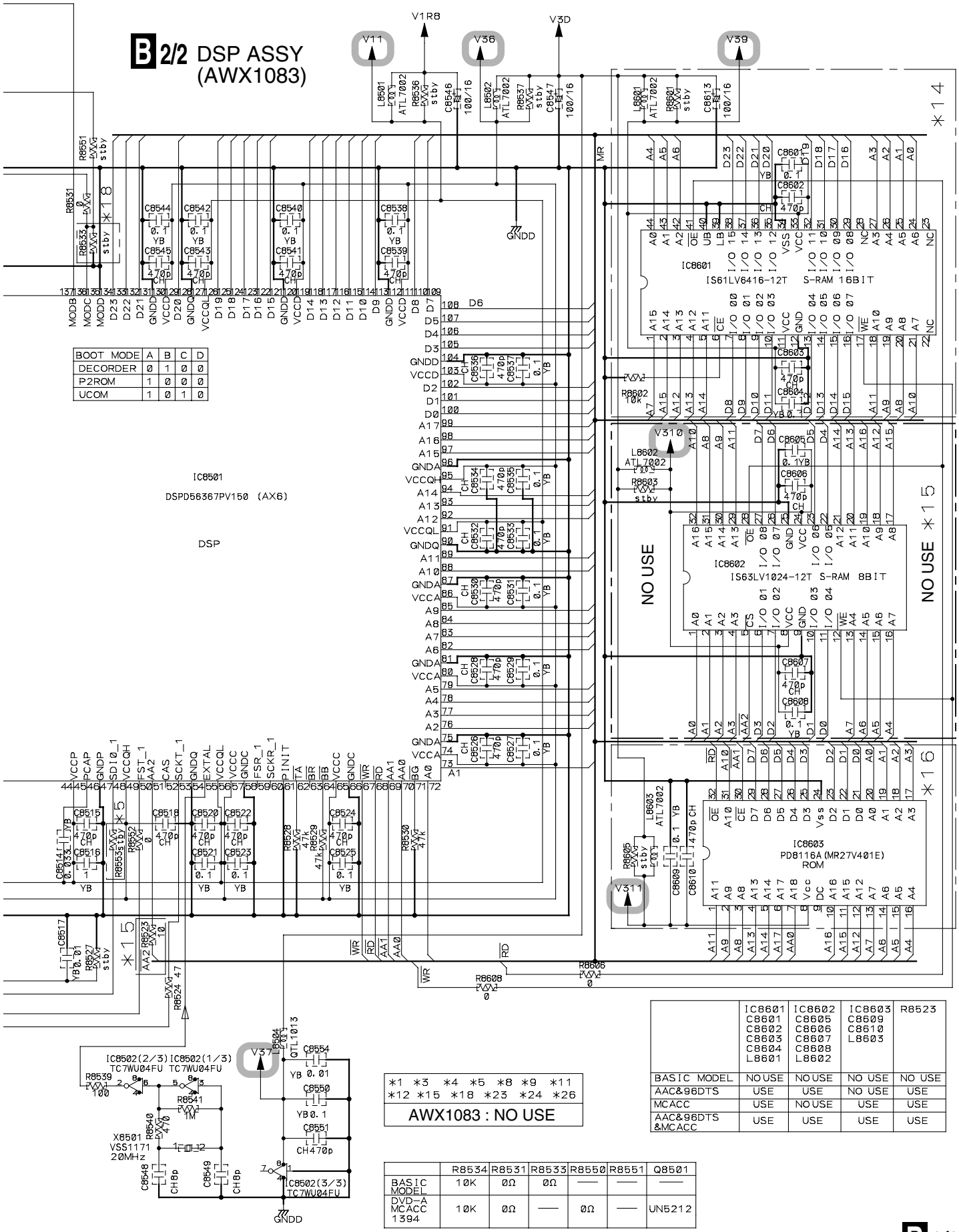



*1 *3 *4 *5 *8 *9 *11
*12 *15 *18 *23 *24 *26
AWX1083 : NO USE
IC8401
AK4529VQ
or AK4628VQ
8ch CODEC
F CN806
F CN805
B 1/2 DSP ASSY
(AWX1083)
: The power supply is shown with the marked box.
B 1/2
NOTES:
NO INDICATED PARTS IS...
UNLESS OTHERWISE NOTED

3.7 DSP ASSY (2/2)



B 2/2 DSP ASSY (AWX1083)



BOOT MODE	A	B	C	D
DECORDER	0	1	0	0
P2ROM	1	0	0	0
UCOM	1	0	1	0

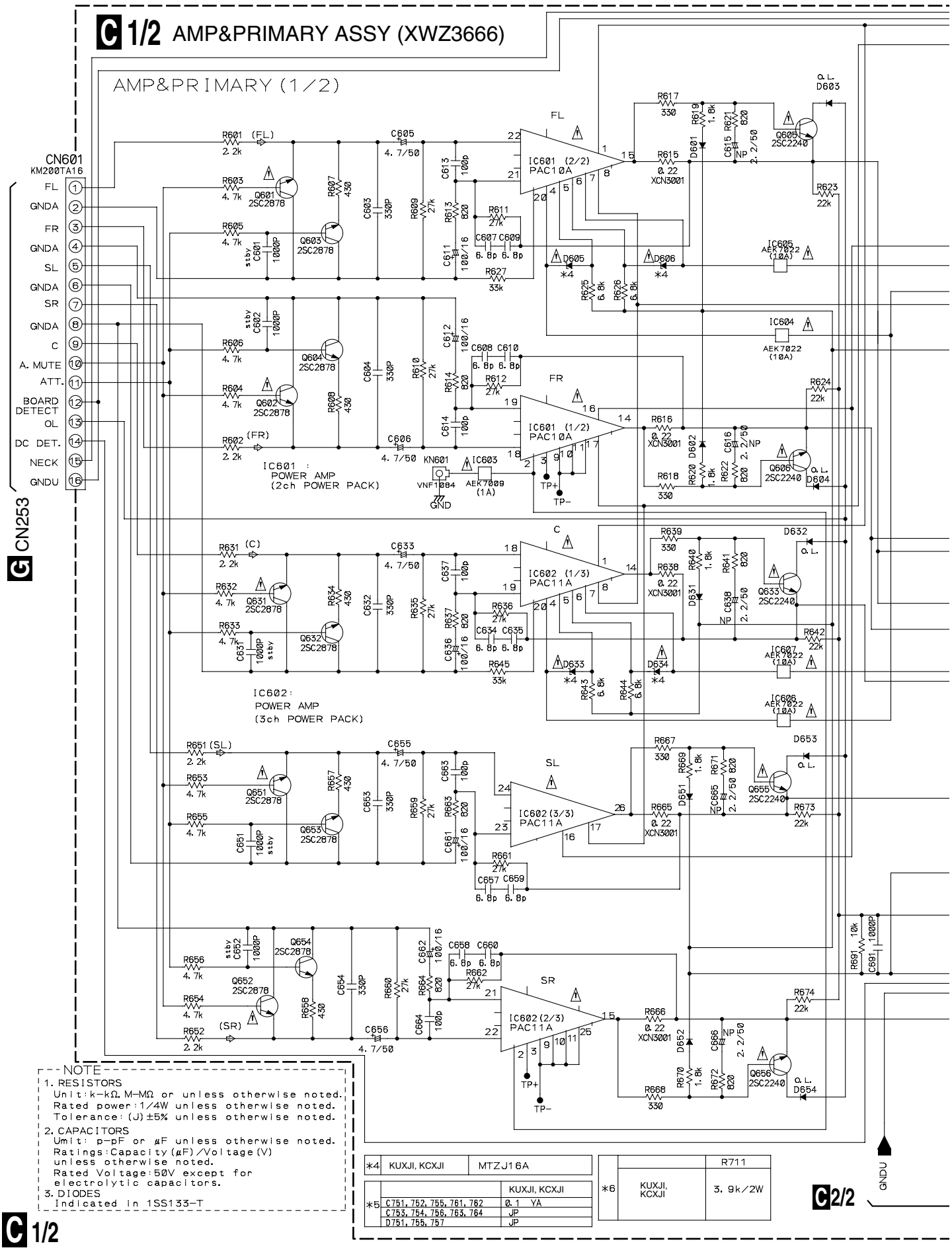
	IC8601 C8601 C8602 C8603 C8604 L8601	IC8602 C8605 C8606 C8607 C8608 L8602	IC8603 C8609 C8610 L8603	R8523
BASIC MODEL	NO USE	NO USE	NO USE	NO USE
AAC&96DTS	USE	USE	NO USE	USE
MCACC	USE	NO USE	USE	USE
AAC&96DTS &MCACC	USE	USE	USE	USE

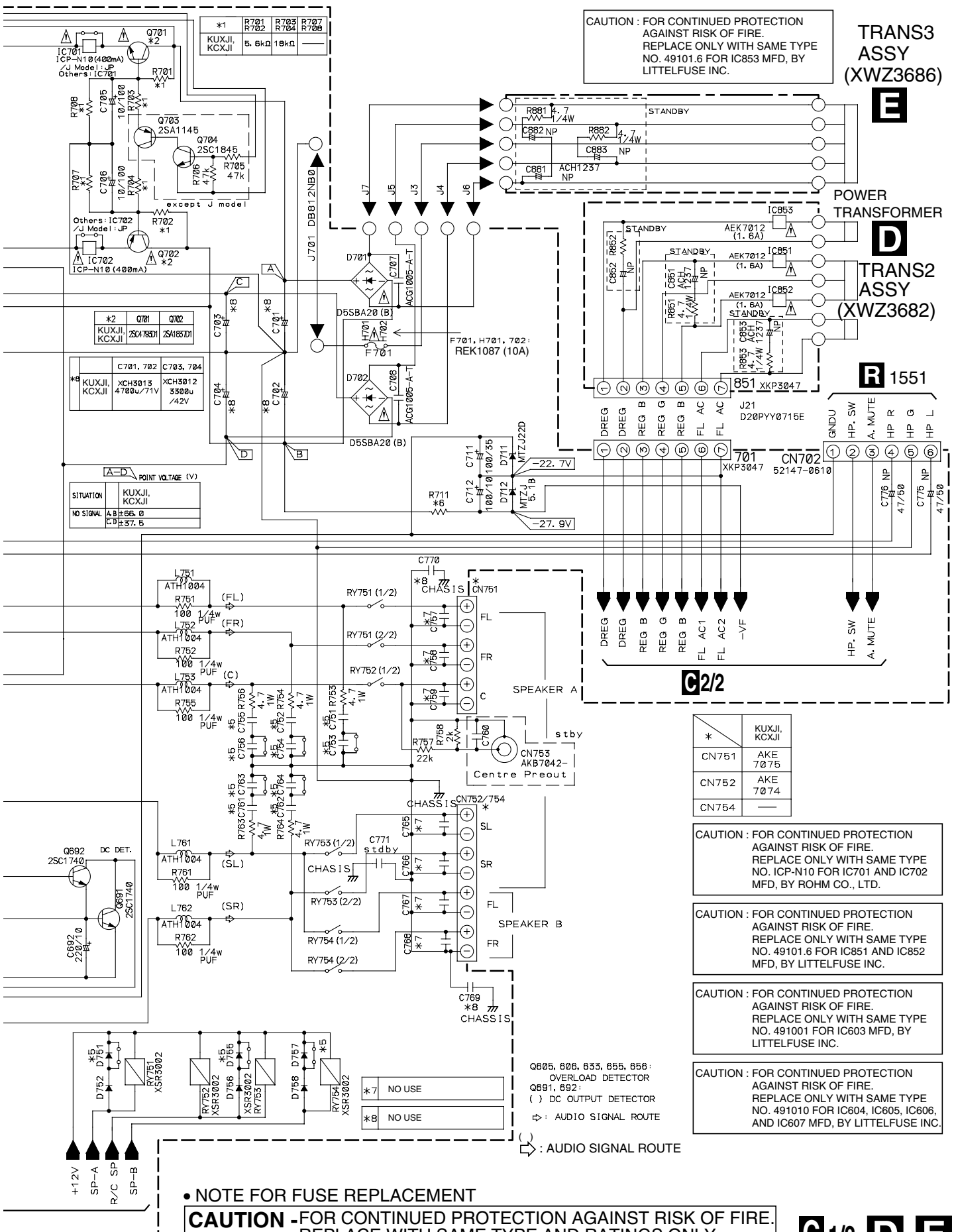
*1	*3	*4	*5	*8	*9	*11
*12	*15	*18	*23	*24	*26	

AWX1083 : NO USE

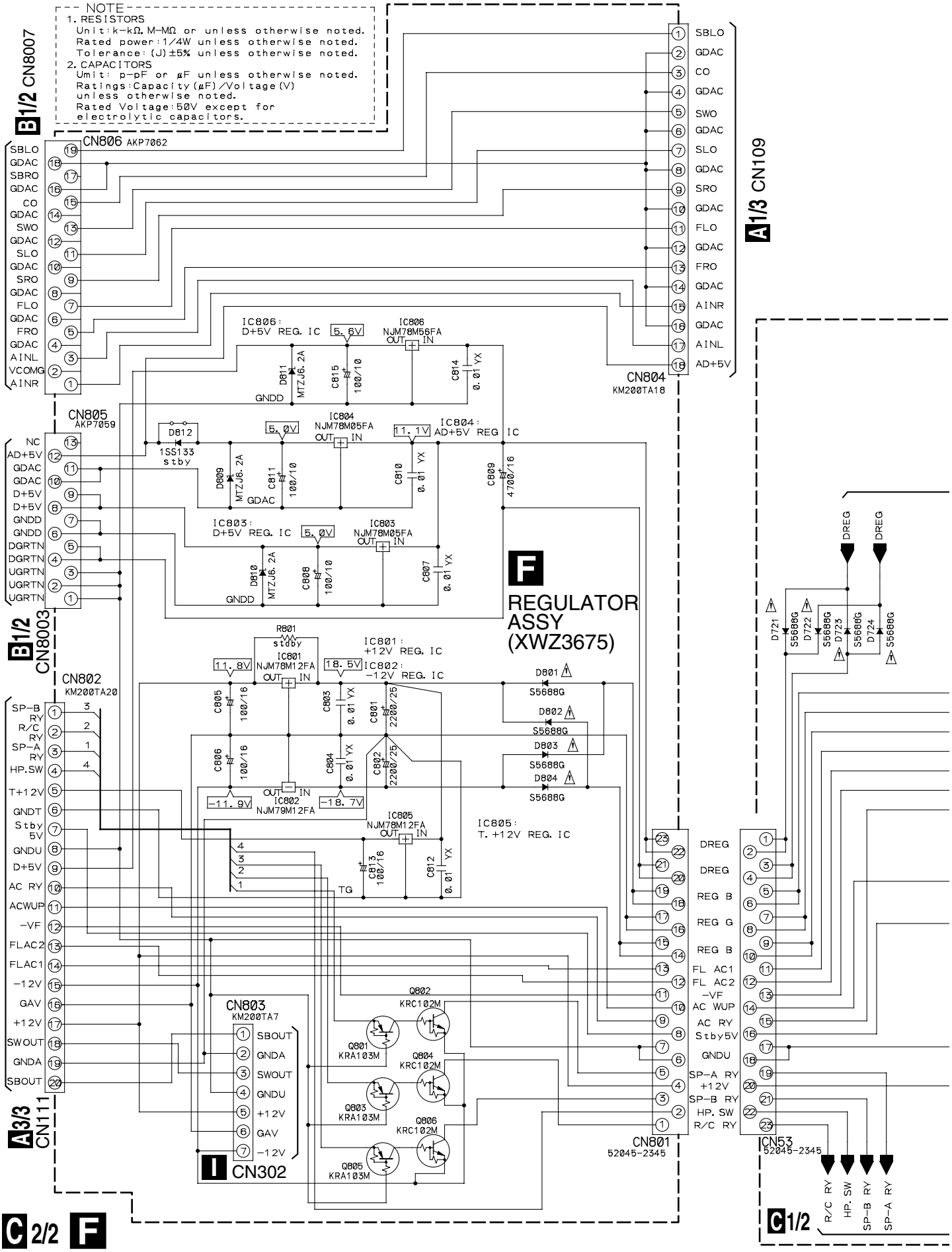
	R8534	R8531	R8533	R8550	R8551	Q8501
BASIC MODEL	10K	0Ω	0Ω	—	—	—
DVD-A MCACC 1394	10K	0Ω	—	0Ω	—	UN5212

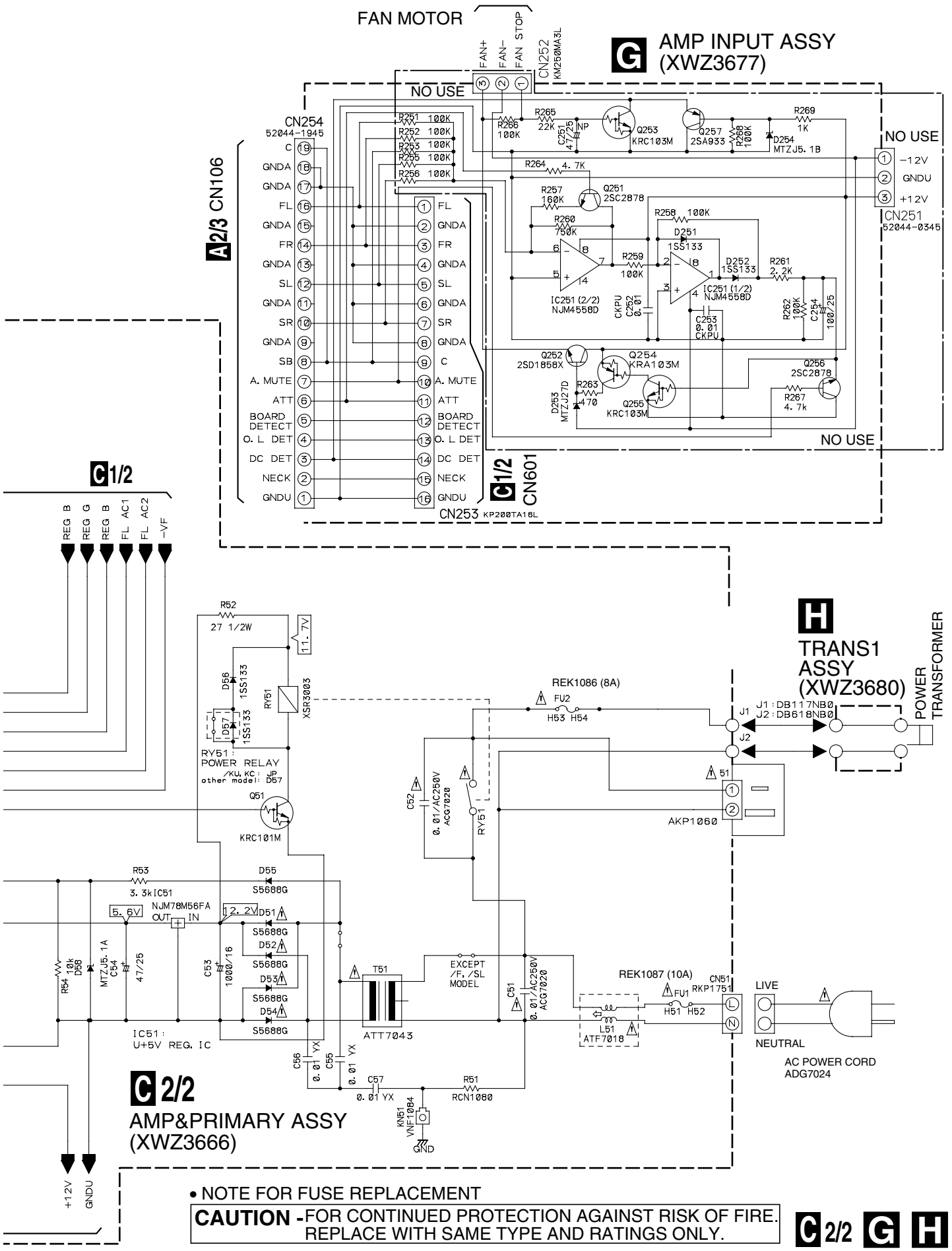
3.8 AMP & PRIMARY (1/2), TRANS2 and TRANS3 ASSYS




TRANS3 ASSY (XWZ3686)
E
POWER TRANSFORMER
D
TRANS2 ASSY (XWZ3682)
R 1551
C 2/2
C 1/2 D E
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 49101.6 FOR IC853 MFD, BY LITTELFUSE INC.
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. ICP-N10 FOR IC701 AND IC702 MFD, BY ROHM CO., LTD.
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 49101.6 FOR IC851 AND IC852 MFD, BY LITTELFUSE INC.
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491001 FOR IC603 MFD, BY LITTELFUSE INC.
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491010 FOR IC604, IC605, IC606, AND IC607 MFD, BY LITTELFUSE INC.
• NOTE FOR FUSE REPLACEMENT
CAUTION - FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE AND RATINGS ONLY.
: AUDIO SIGNAL ROUTE

3.9 AMP & PRIMARY (2/2), REG., AMP INPUT and TRANS1 ASSYS



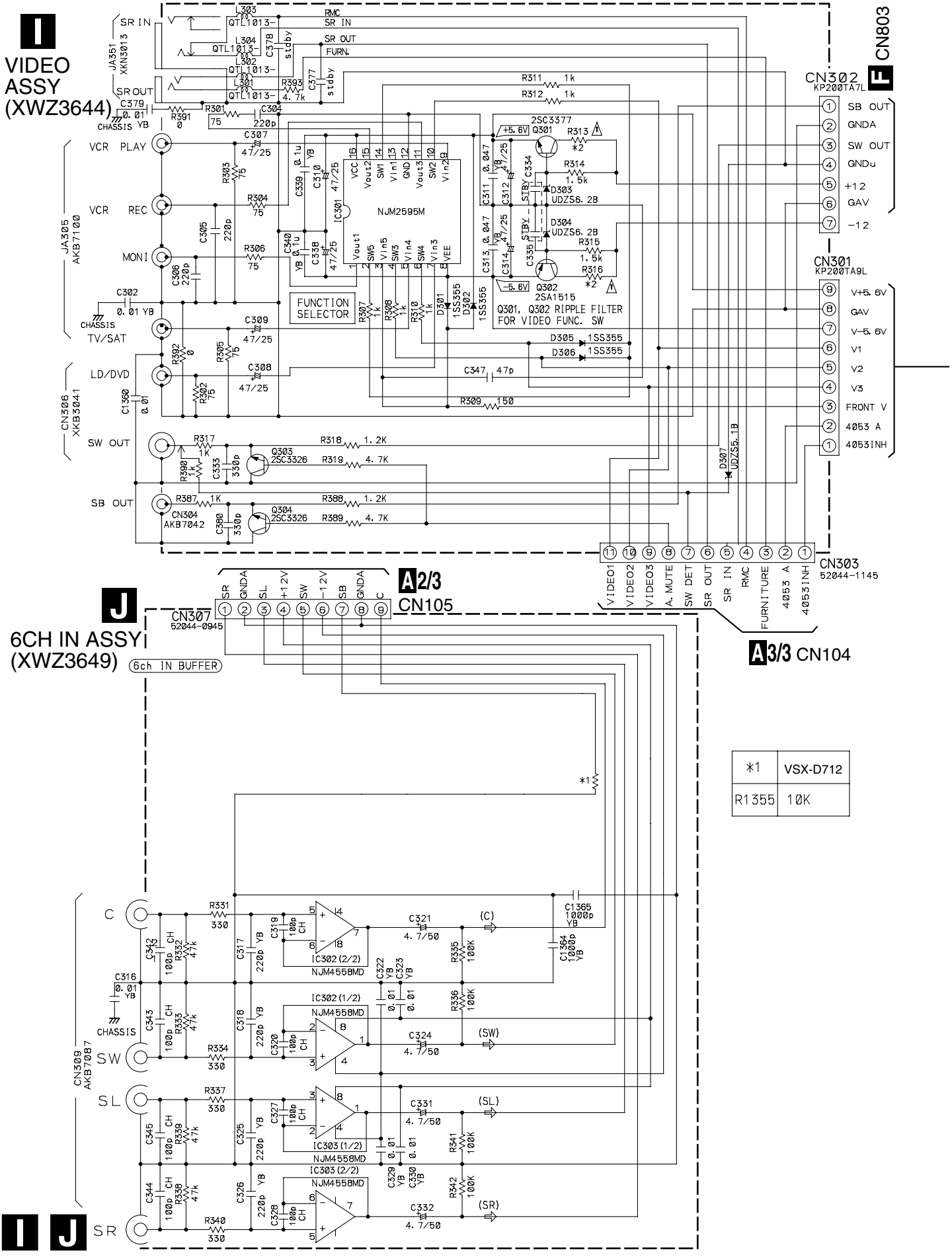


• NOTE FOR FUSE REPLACEMENT

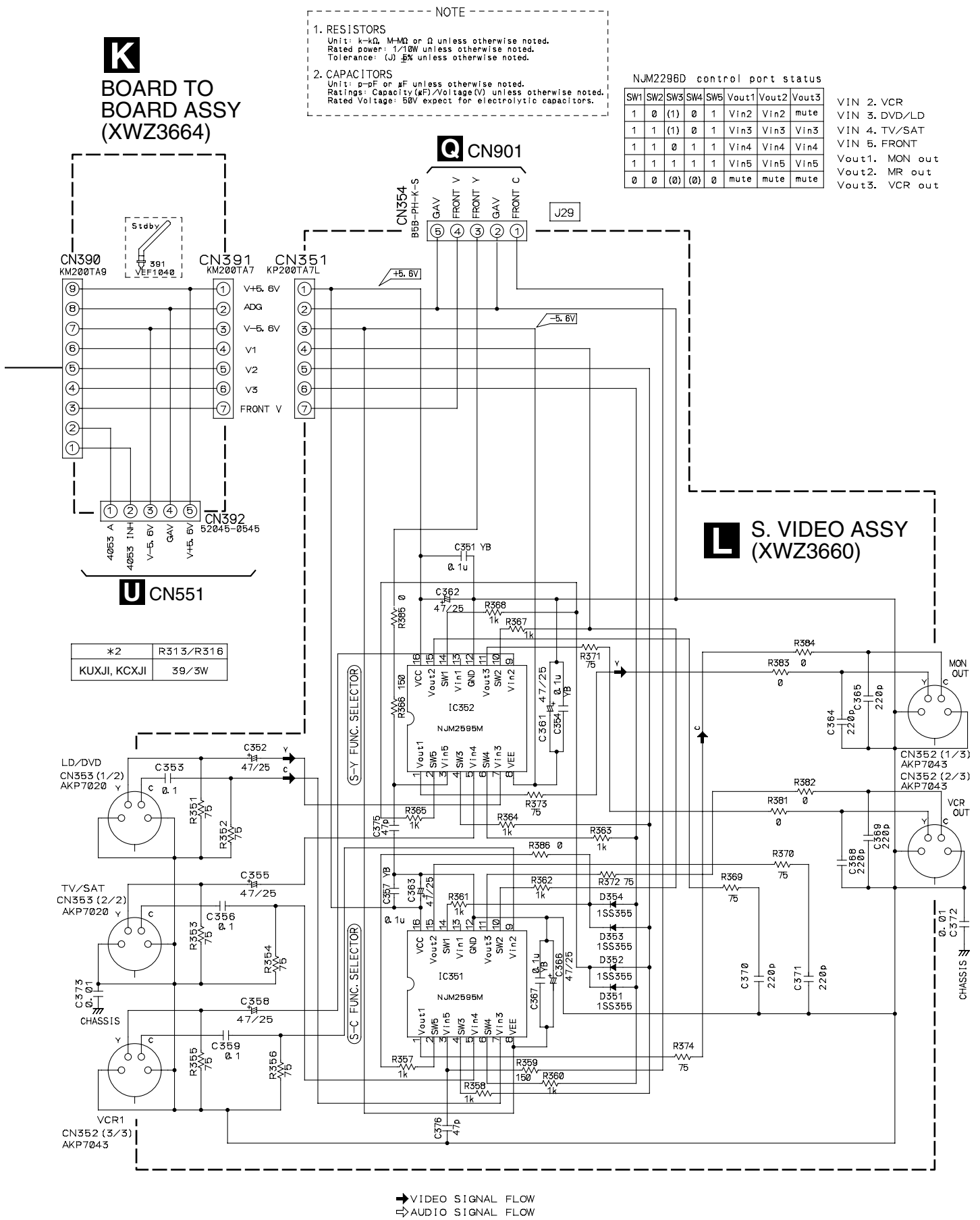
CAUTION - FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE AND RATINGS ONLY.

C 2/2 G H

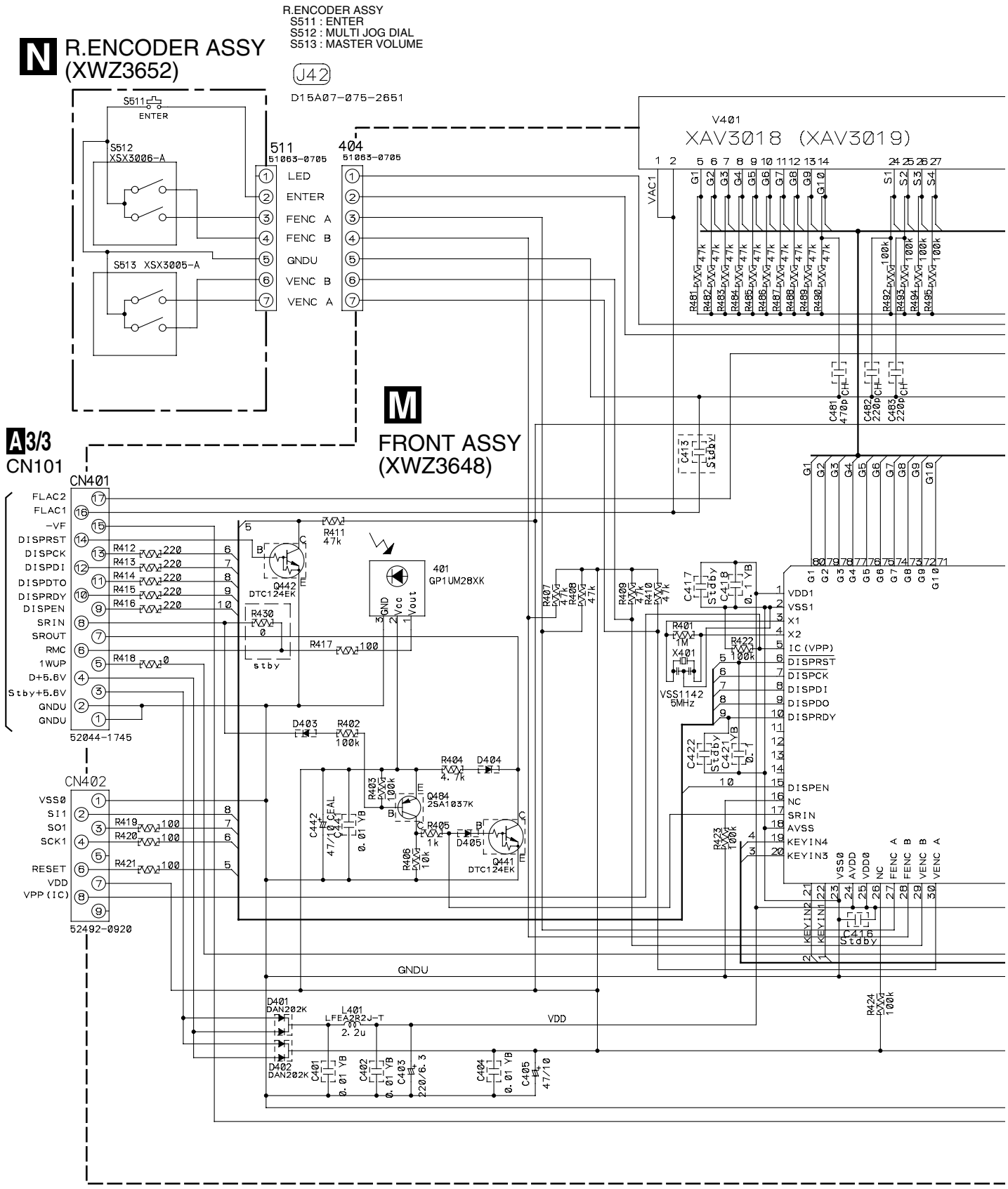
3.10 VIDEO, 6CH IN, BOARD TO BOARD and S. VIDEO ASSYS



*1	VSX-D712
R1355	10K


NOTE
1. RESISTORS
Unit: k-kΩ, M-MΩ or Ω unless otherwise noted.
Rated power: 1/10W unless otherwise noted.
Tolerance: (J) ±5% unless otherwise noted.
2. CAPACITORS
Unit: p-pF or μF unless otherwise noted.
Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.
Rated Voltage: 50V expect for electrolytic capacitors.
NJM2296D control port status
SW1 SW2 SW3 SW4 SW5 Vout1 Vout2 Vout3
1 0 (1) 0 1 Vin2 Vin2 mute
1 1 (1) 0 1 Vin3 Vin3 Vin3
1 1 0 1 1 Vin4 Vin4 Vin4
1 1 1 1 1 Vin5 Vin5 Vin5
0 0 (0) (0) 0 mute mute mute
VIN 2. VCR
VIN 3. DVD/LD
VIN 4. TV/SAT
VIN 5. FRONT
Vout1. MON out
Vout2. MR out
Vout3. VCR out
K
BOARD TO BOARD ASSY (XWZ3664)
Q CN901
CN354 B5B-PH-K-S
GAV FRONT V FRONT Y GAV FRONT C
J29
Stdby
391 VEF1040
CN390 KM200TA9
CN391 KM200TA7
CN351 KP200TA7L
V+5.6V
ADG
V-5.6V
V1
V2
V3
FRONT V
+5.6V
-5.6V
CN392 52045-0545
4053 A
4053 INH
V-5.6V
GAV
V+5.6V
U CN551
L S. VIDEO ASSY (XWZ3660)
*2 R313/R316
KUXJI, KCXJI 39/3W
LD/DVD CN353 (1/2) AKP7020
TV/SAT CN353 (2/2) AKP7020
VCR1 CN352 (3/3) AKP7043
CHASSIS
S-Y FUNC. SELECTOR
S-C FUNC. SELECTOR
IC352 NJM2595M
IC351 NJM2595M
VCC Vout2 SW1 Vin1 GND Vout3 SW2 Vin2
Vout1 SW5 Vin5 SW3 Vin4 SW4 Vin3 VEE
MON OUT
VCR OUT
CN352 (1/3) AKP7043
CN352 (2/3) AKP7043
D354 1SS355
D353 1SS355
D352 1SS355
D351 1SS355
C351 YB 0.1u
C352 47/25
C353 0.1
C354 0.1u YB
C355 47/25
C356 0.1
C357 YB 0.1u
C358 47/25
C359 0.1
C361 47/25
C362 47/25
C363 47/25
C364 220p
C365 220p
C366 47/25
C367 0.1u YB
C368 220p
C369 220p
C370 220p
C371 220p
C372 0.01
C373 0.01
C375 47p
C376 47p
R351 75
R352 75
R353 75
R354 75
R355 75
R356 75
R357 1k
R358 1k
R359 150
R360 1k
R361 1k
R362 1k
R363 1k
R364 1k
R365 1k
R366 150
R367 1k
R368 1k
R369 75
R370 75
R371 75
R372 75
R373 75
R374 75
R381 0
R382 0
R383 0
R384 0
R385 0
R386 0
VIDEO SIGNAL FLOW
AUDIO SIGNAL FLOW

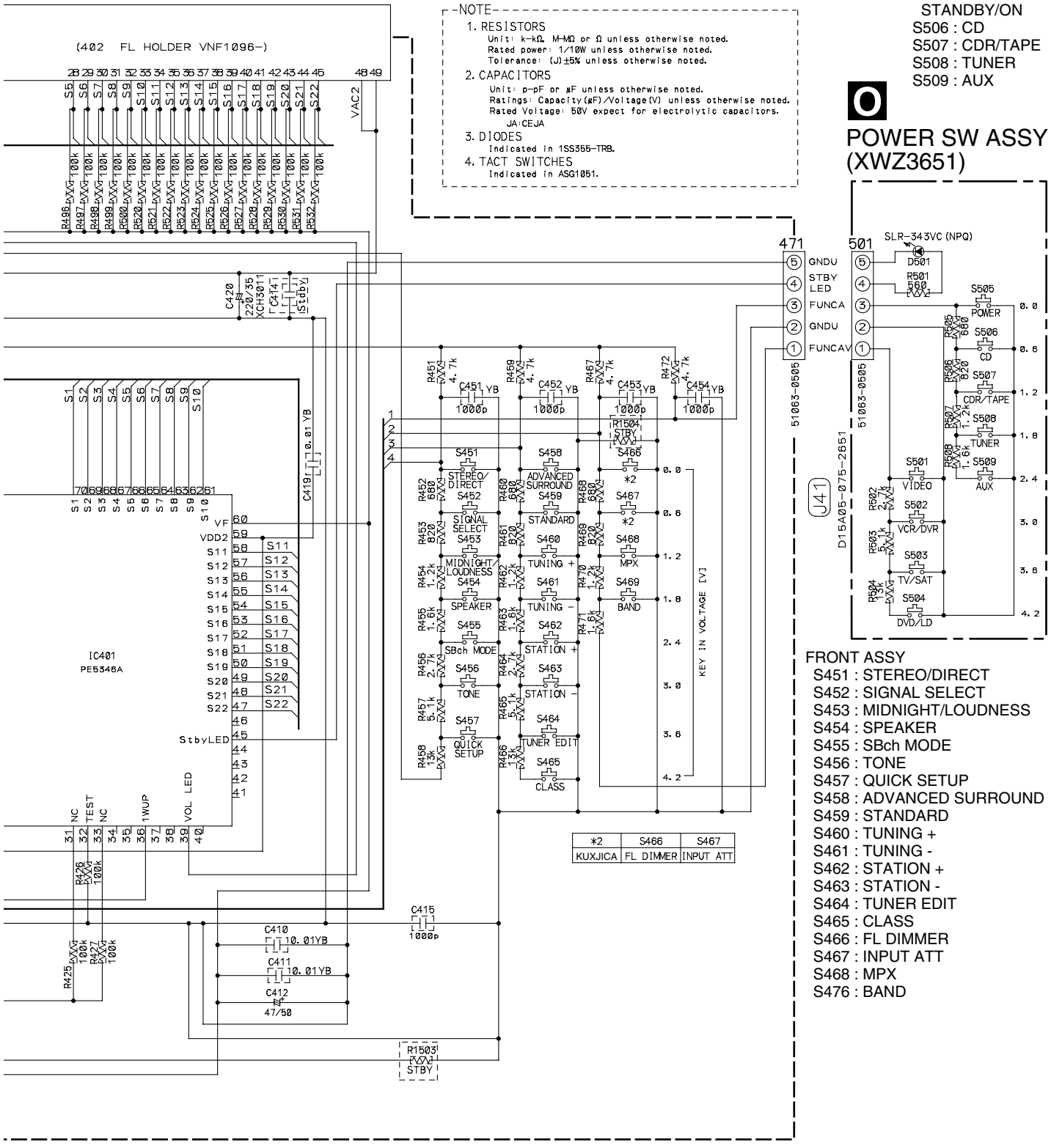
3.11 FRONT, R. ENCODER and POWER SW ASSYS



POWER SW ASSY
S501 : VIDEO
S502 : VCR/DVR
S503 : TV/SAT
S504 : DVD/LD
S505 : POWER
STANDBY/ON
S506 : CD
S507 : CDR/TAPE
S508 : TUNER
S509 : AUX

O

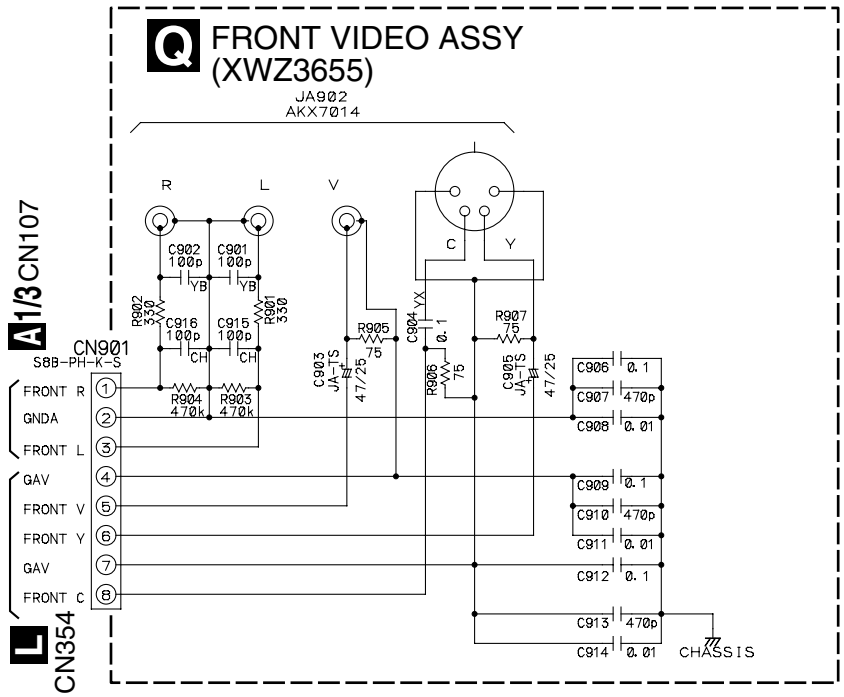
POWER SW ASSY (XWZ3651)



FRONT ASSY
S451 : STEREO/DIRECT
S452 : SIGNAL SELECT
S453 : MIDNIGHT/LOUDNESS
S454 : SPEAKER
S455 : SBch MODE
S456 : TONE
S457 : QUICK SETUP
S458 : ADVANCED SURROUND
S459 : STANDARD
S460 : TUNING +
S461 : TUNING -
S462 : STATION +
S463 : STATION -
S464 : TUNER EDIT
S465 : CLASS
S466 : FL DIMMER
S467 : INPUT ATT
S468 : MPX
S476 : BAND

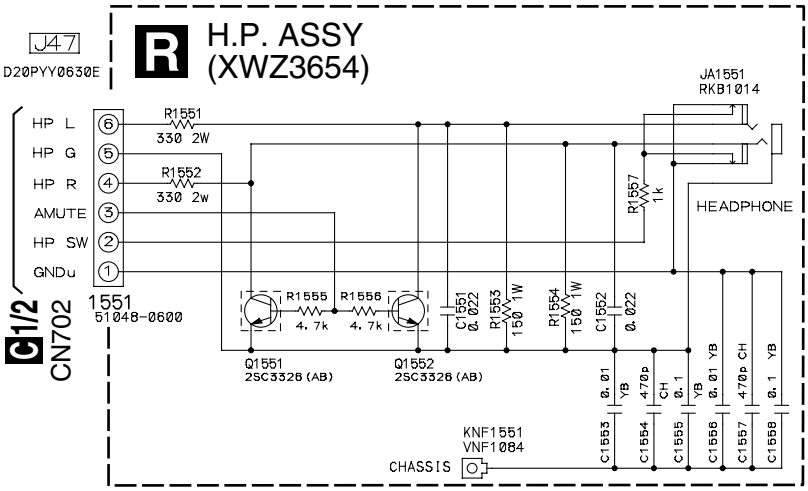
M O

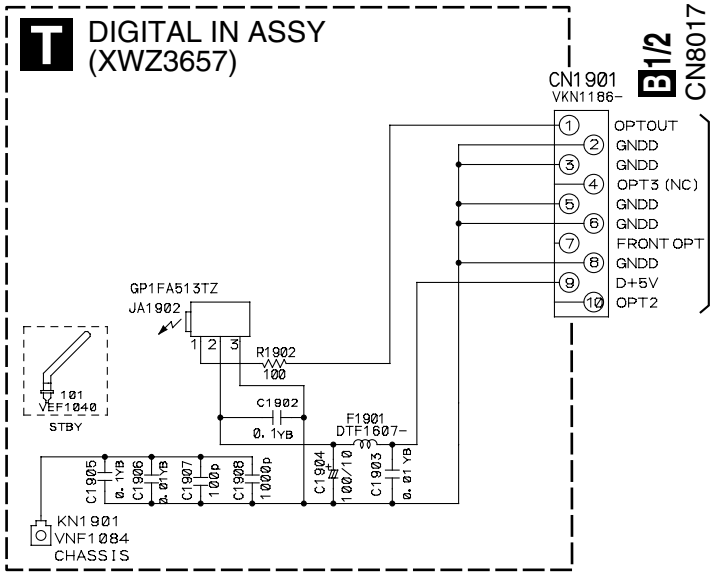
3.12 F.VIDEO, H.P., DIGITAL IN and COMPONENT ASSYS

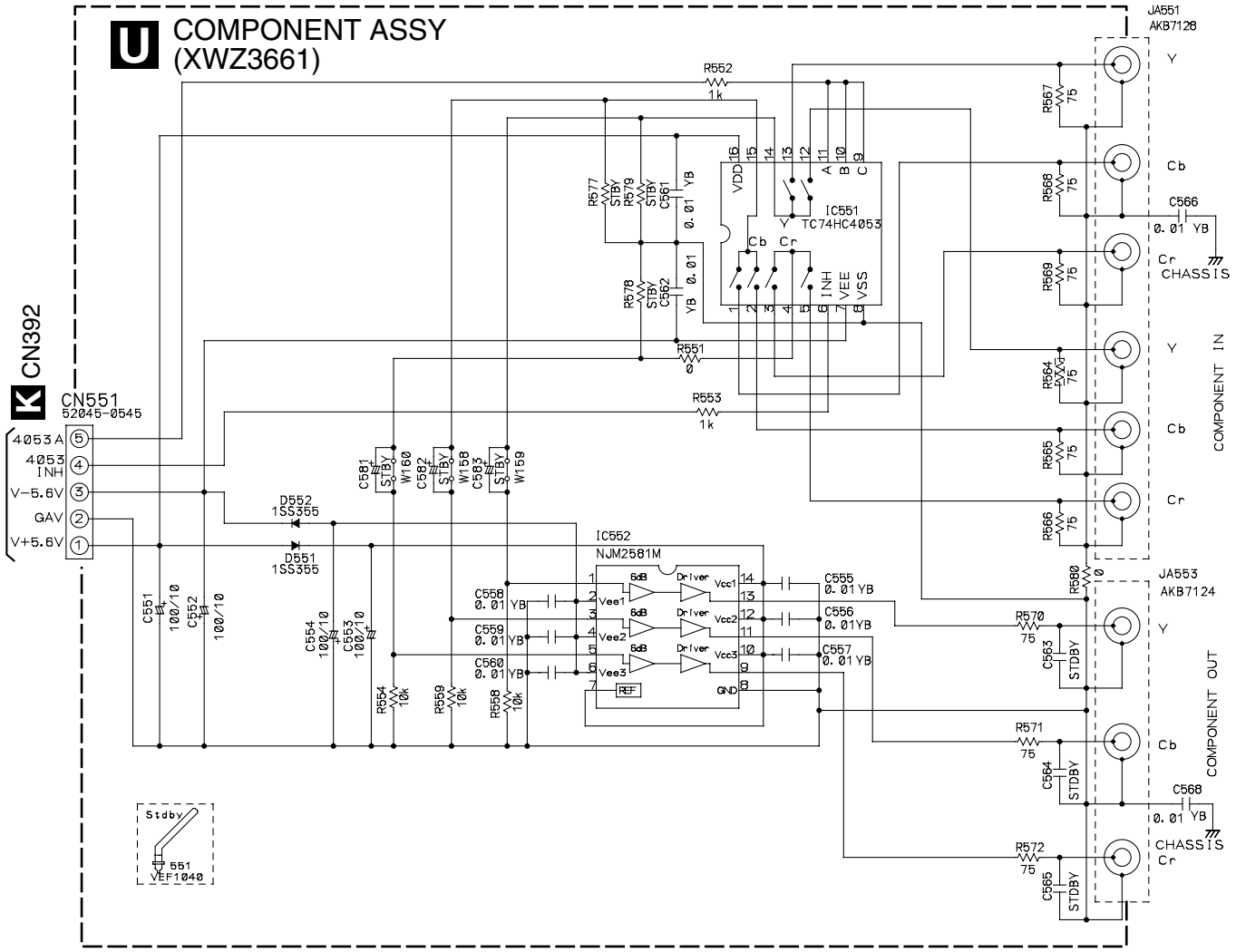


NOTE

1. RESISTORS
   Unit: k-kΩ, M-MΩ or Ω unless otherwise noted.
   Rated power: 1/10W unless otherwise noted.
   Tolerance: (J) ±5% unless otherwise noted.
2. CAPACITORS
   Unit: p-pF or μF unless otherwise noted.
   Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.
   Rated Voltage: 50V expect for electrolytic capacitors.

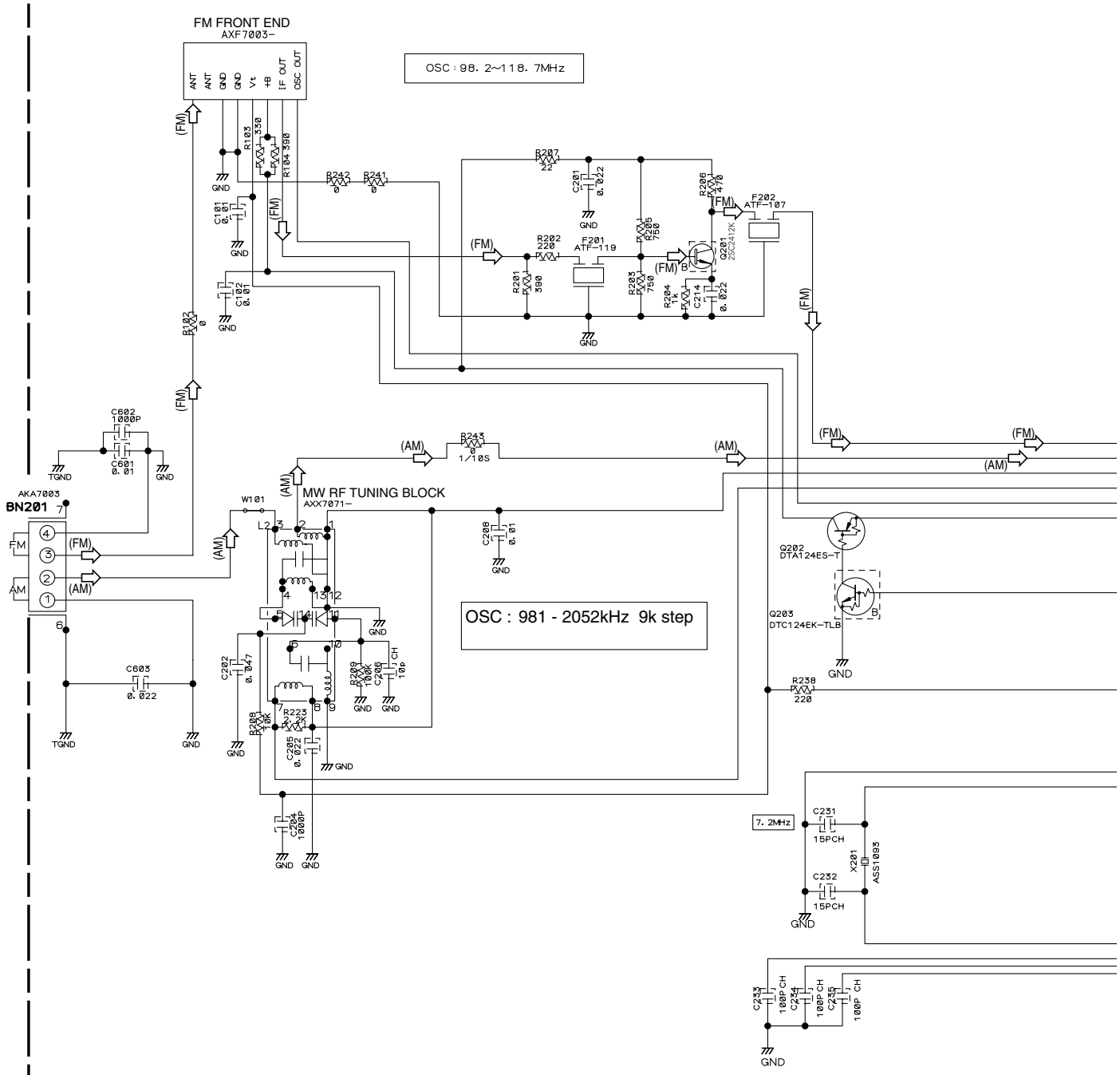





COMPONENT ASSY
(XWZ3661)
CN392
CN551
52045-0545
4053A
4053 INH
V-5.6V
GAV
V+5.6V
D551
1SS355
D552
1SS355
IC551
TC74HC4053
IC552
NJM2581M
JA551
AKB7126
JA553
AKB7124
COMPONENT IN
COMPONENT OUT
CHASSIS
Stdby
551
VEF1040

3.13 FM/AM TUNER MODULE

W FM/AM TUNER MODULE (AXQ7231)



Notes

: The power supply is shown with the marked box.

1. RESISTORS

Indicated in Ω, 1/16W±5% Tolerance unless otherwise noted K;KΩ, M;MΩ.

2. CAPACITORS

Indicated in Capacity(μF)/VOLTAGE(V) unless otherwise noted P;PF.

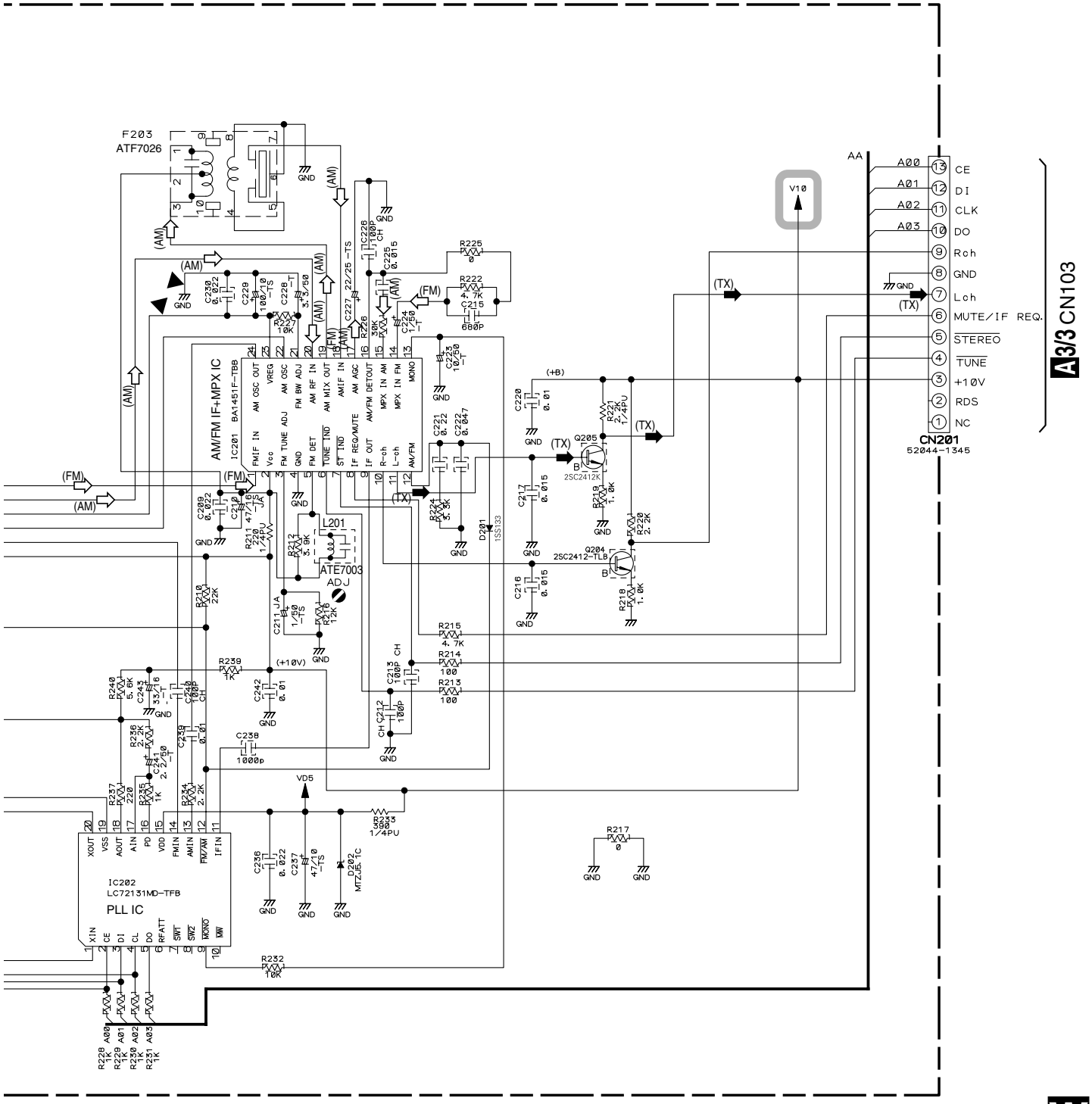
3. DIODES

No mark diode is 1SS133.

(TX) : AUDIO SIGNAL ROUTE (TUNER)

(AM) : AM SIGNAL ROUTE

(FM) : FM SIGNAL ROUTE



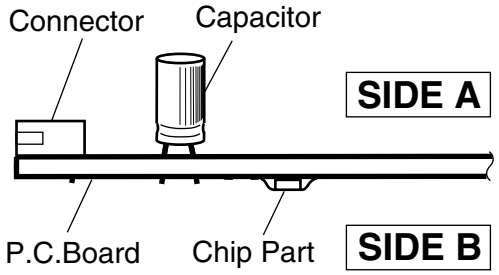
4. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

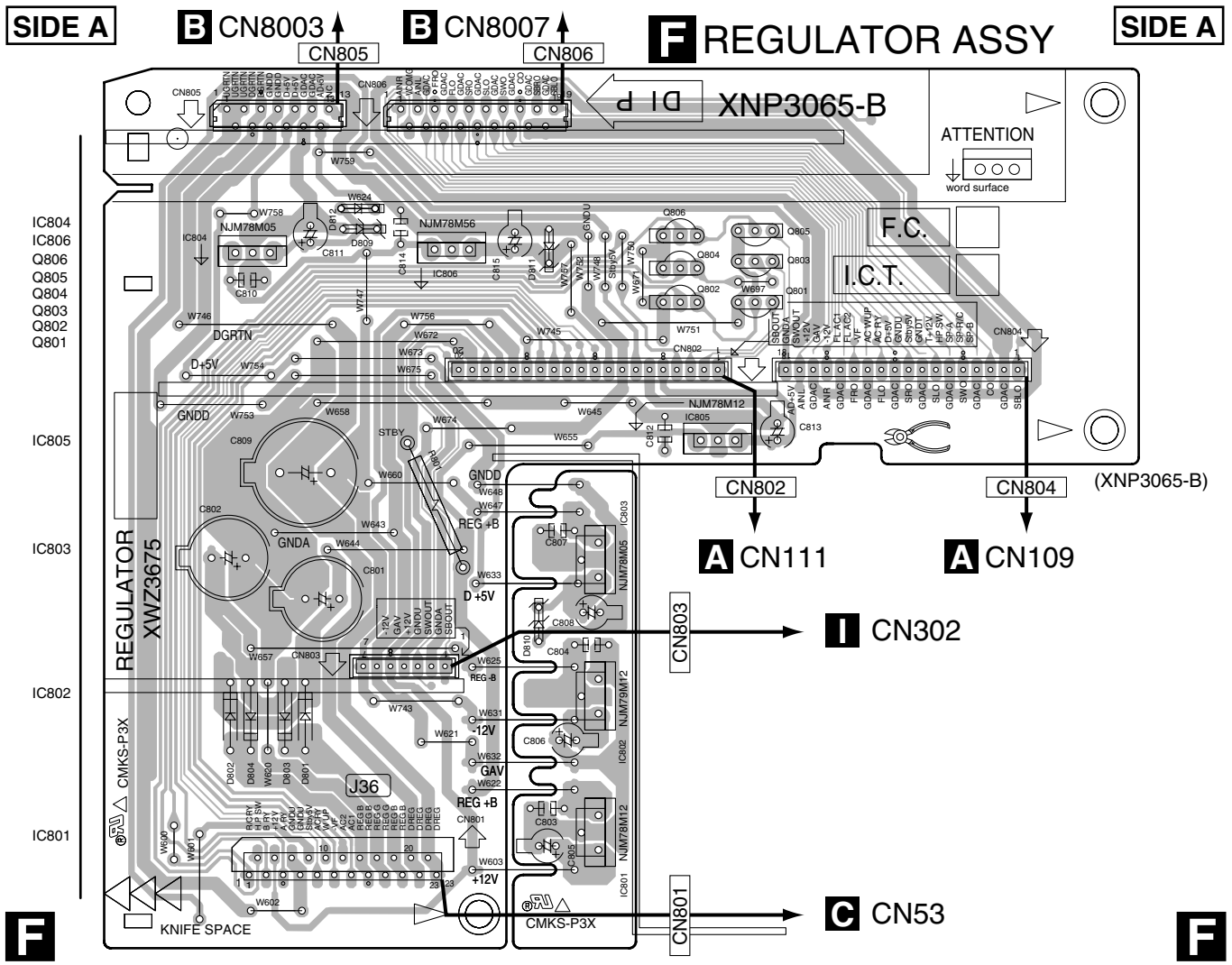
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
B C E	B C E B C E	Transistor
B C E	B C E B C E	Transistor with resistor
D G S	D G S D G S	Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destinations.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.

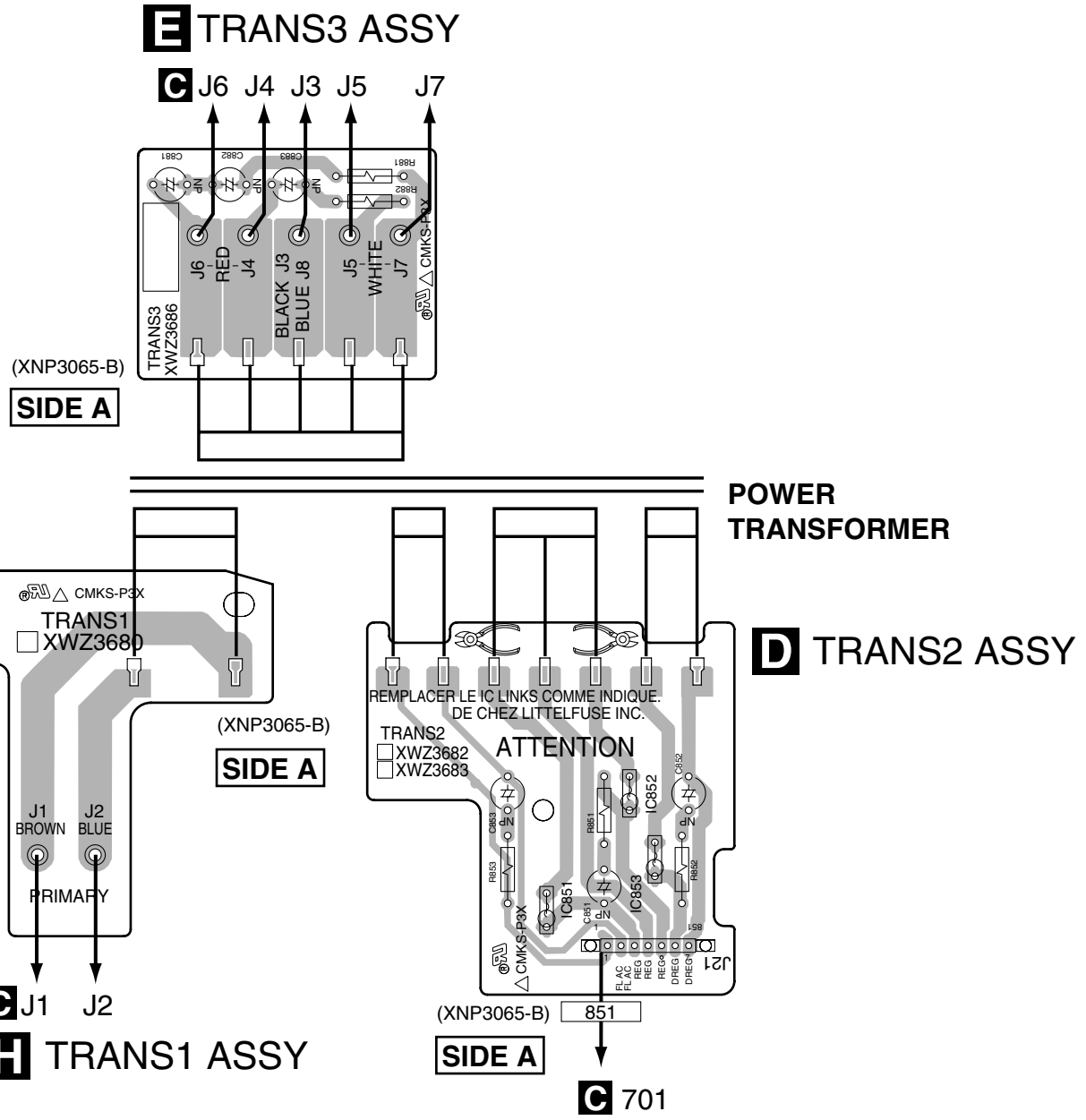


4.1 REGULATOR ASSY



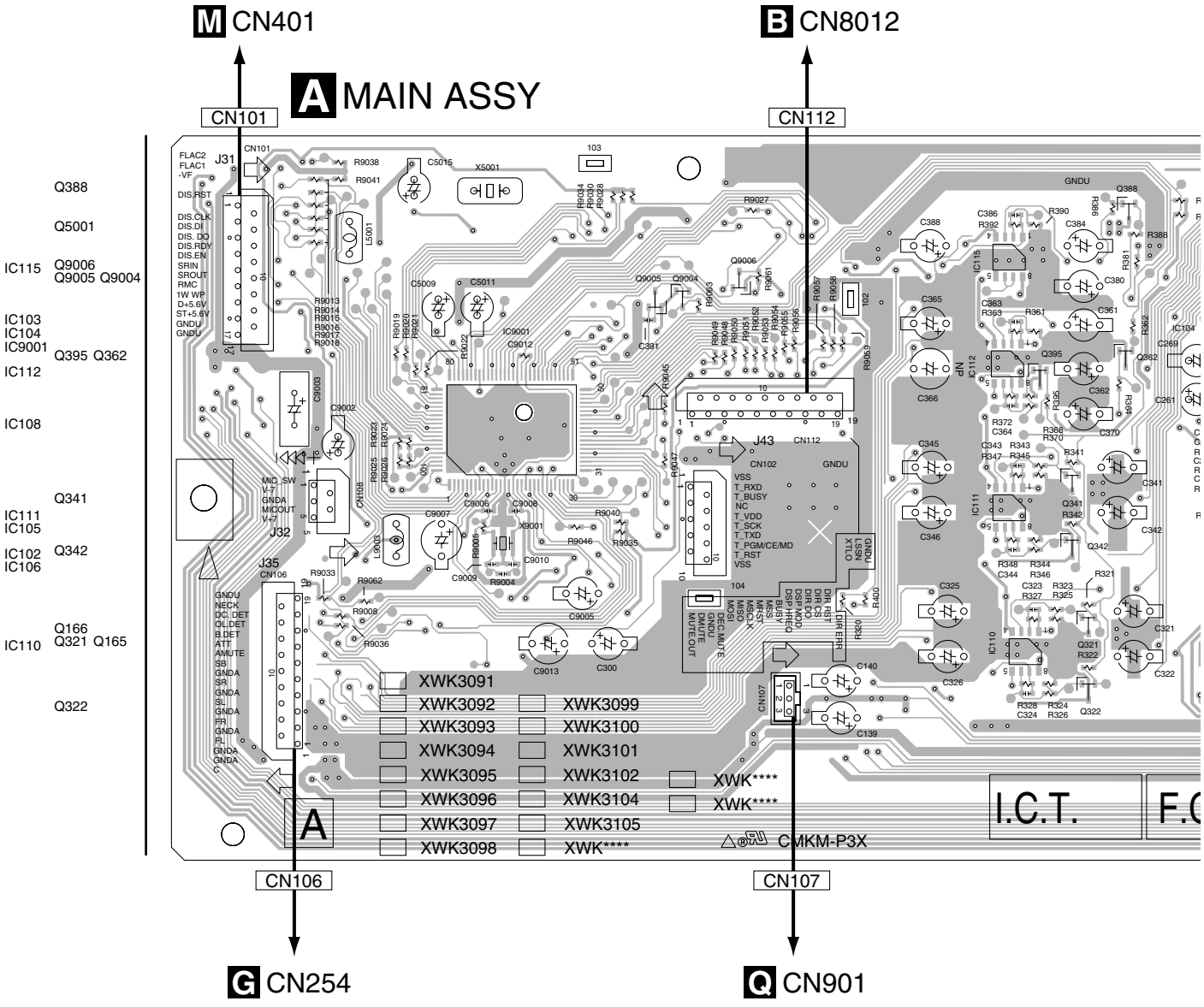
4.2 TRANS2, TRANS3 and TRANS1 ASSYS

SIDE A **SIDE A**

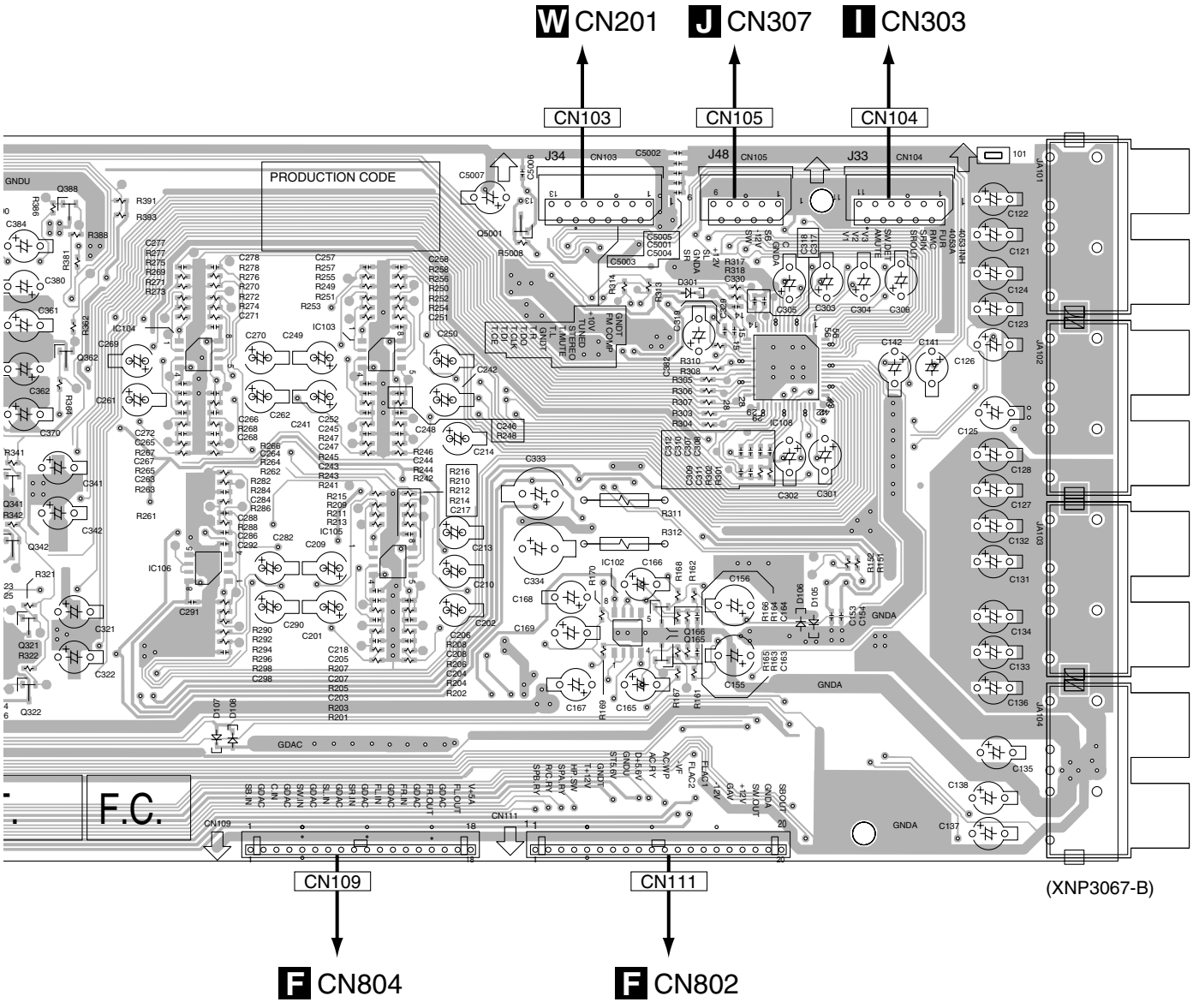


4.3 MAIN ASSY

SIDE A

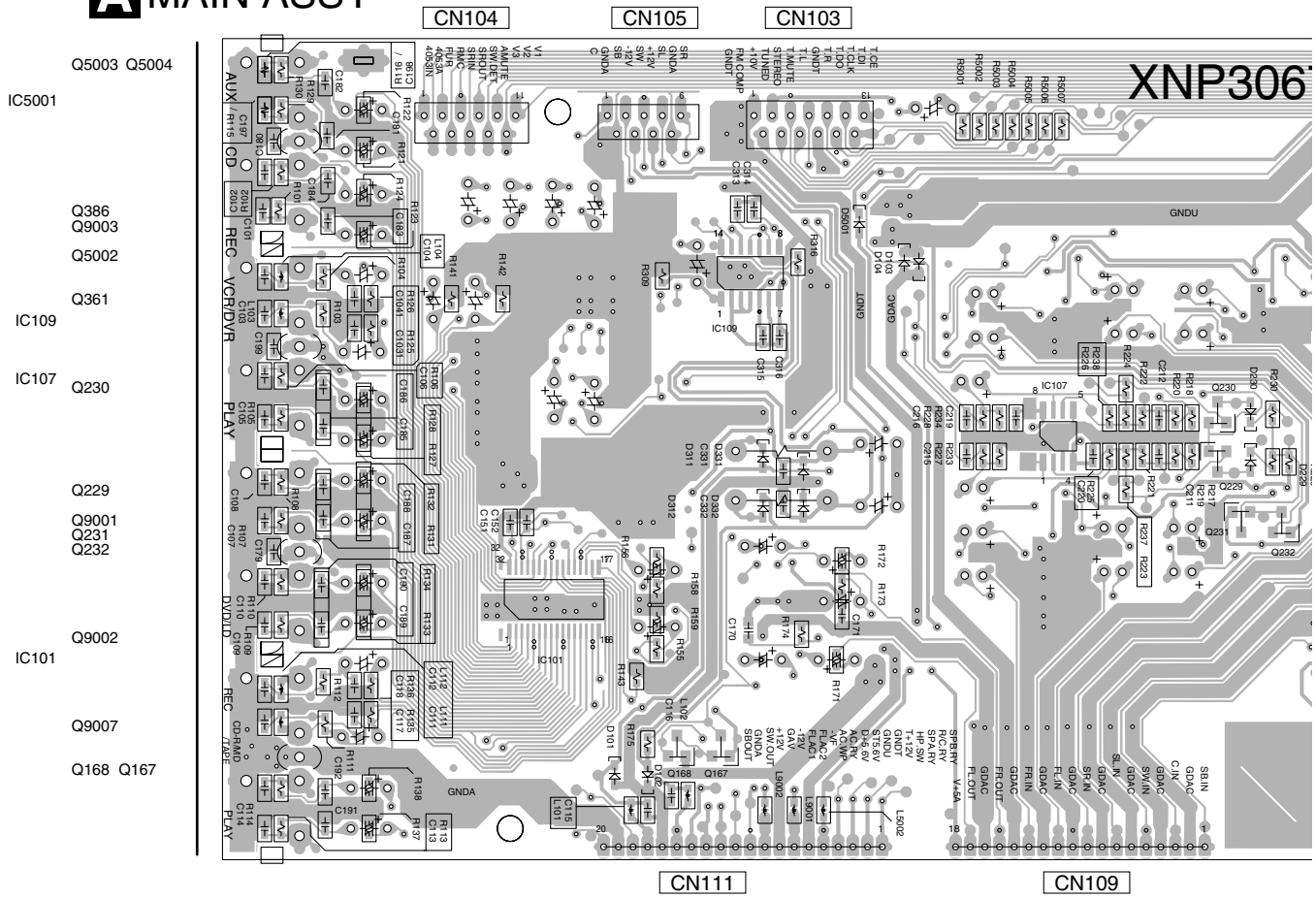


SIDE A


W CN201
J CN307
I CN303
CN103
CN105
CN104
PRODUCTION CODE
J34 CN103
J48 CN105
J33 CN104
CN109
CN111
CN109
CN111
F CN804
F CN802
(XNP3067-B)

SIDE B

A MAIN ASSY



SIDE B

A

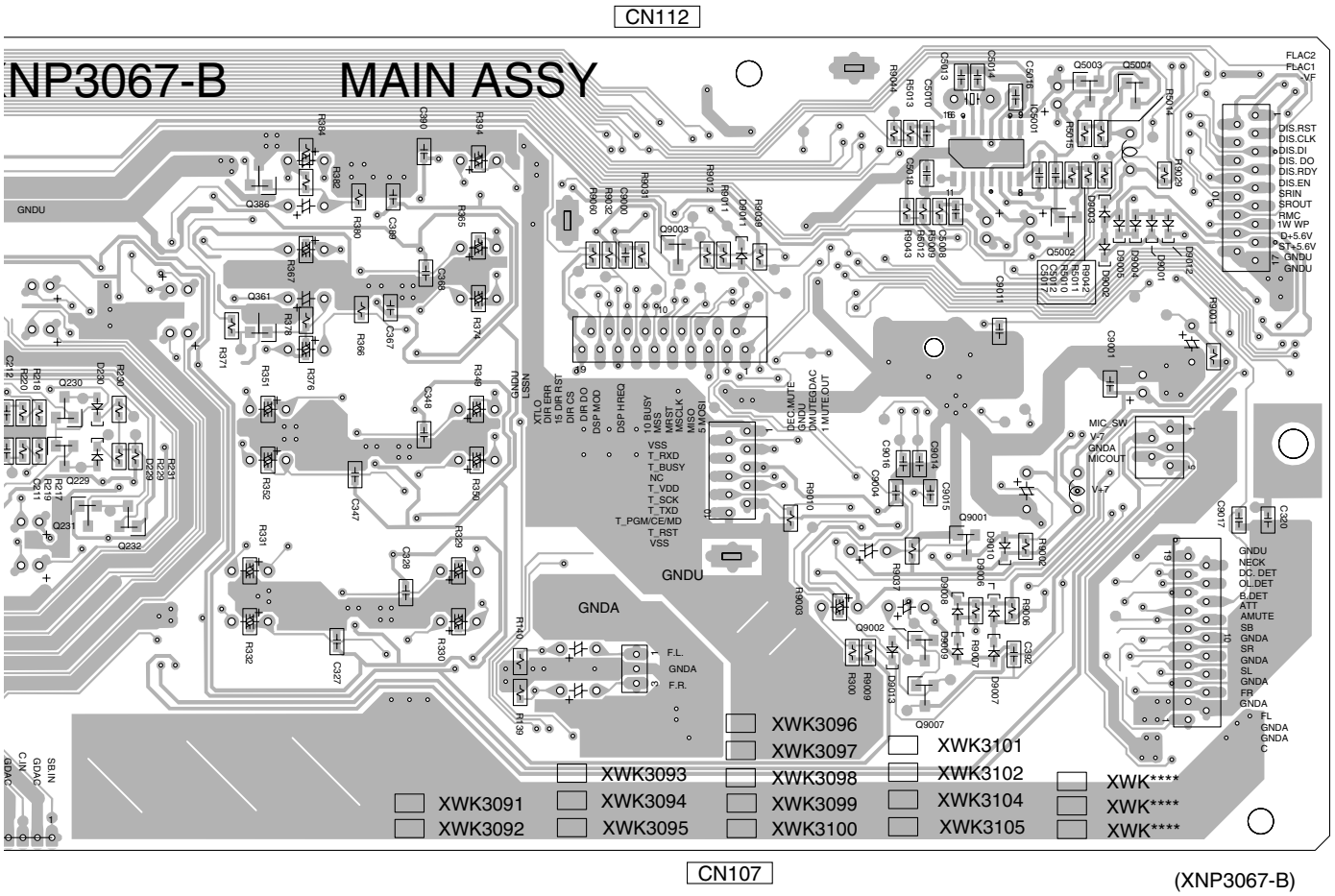
B

C

D

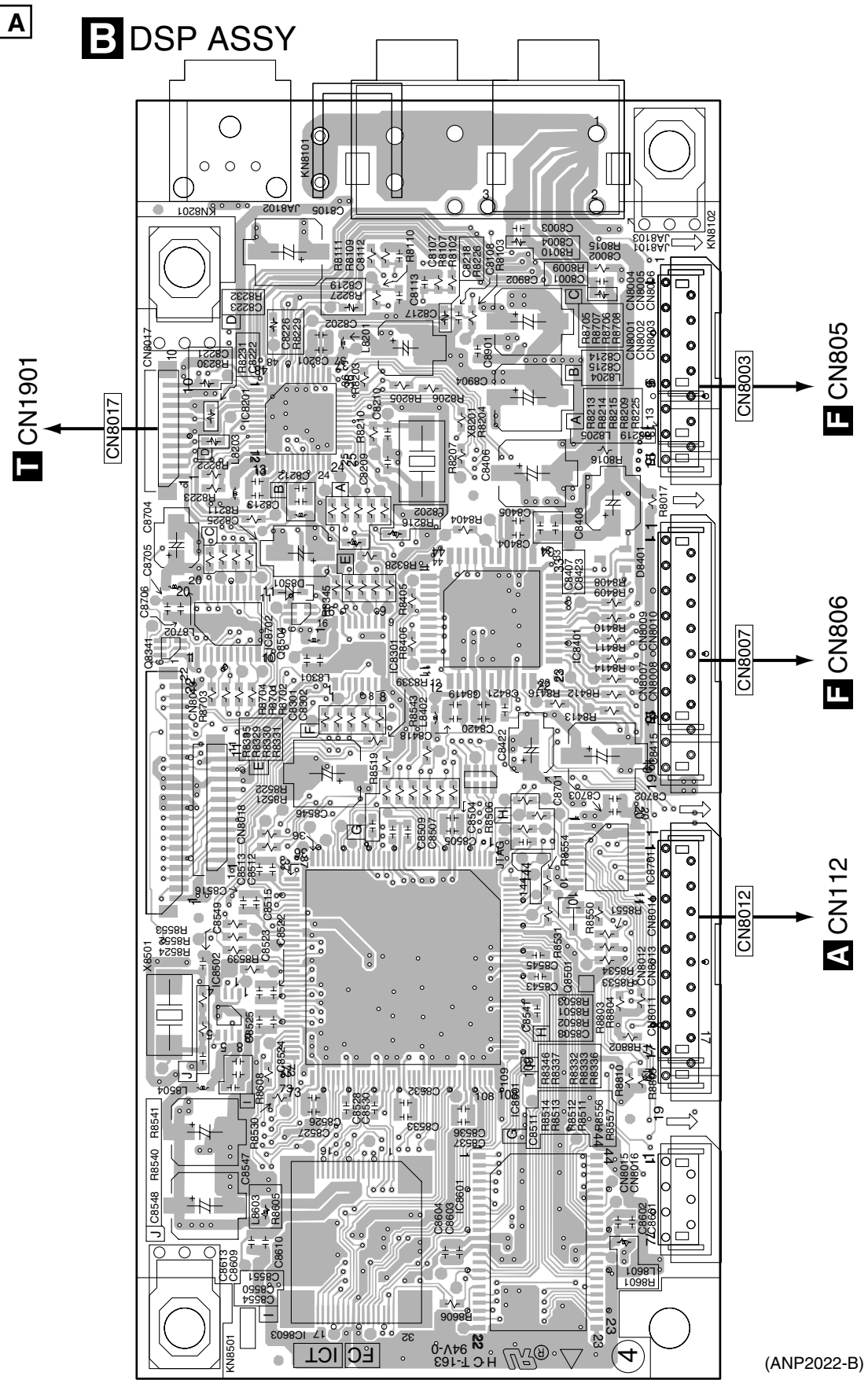
E

F



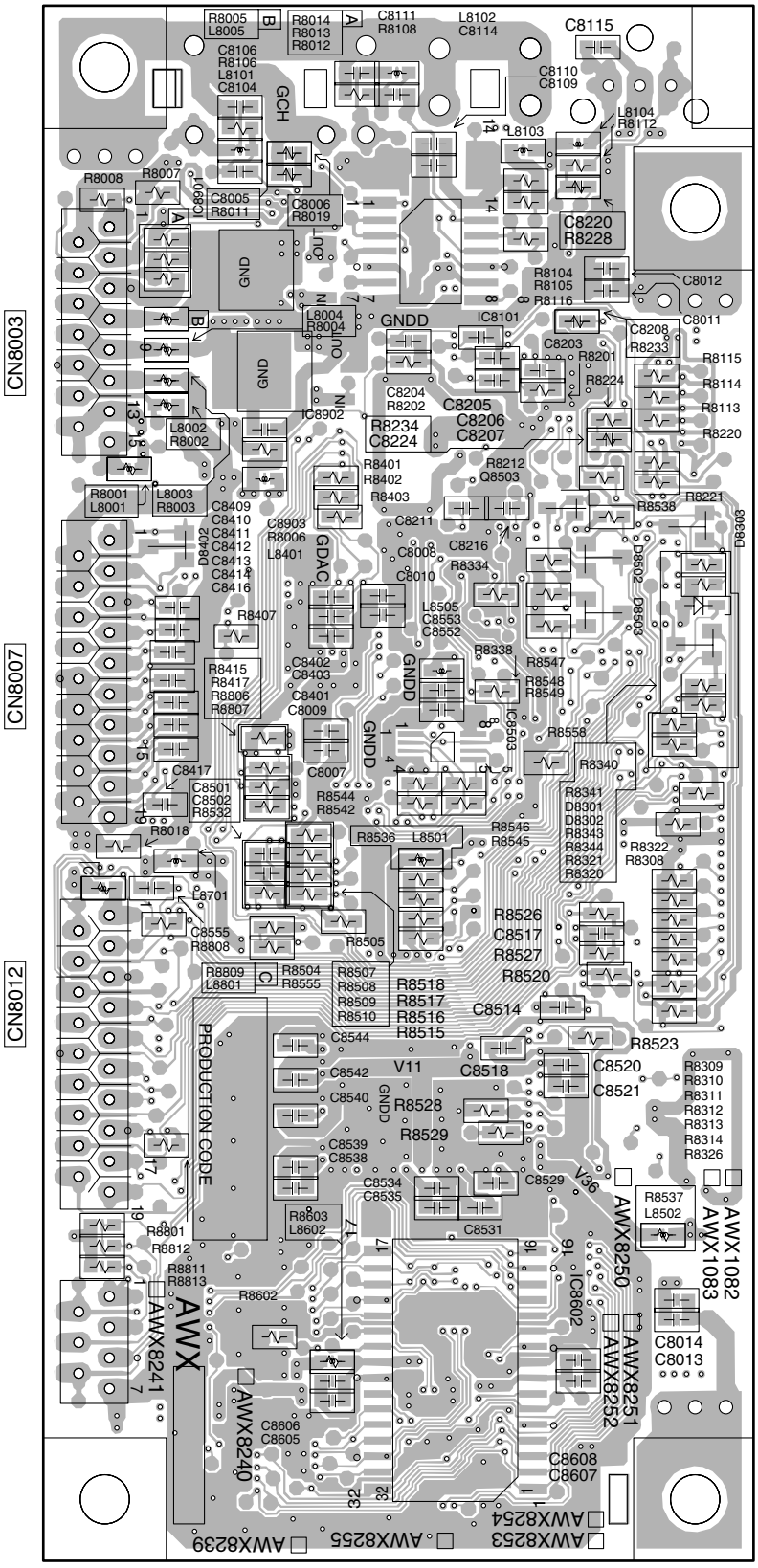
(XNP3067-B)

4.4 DSP ASSY


SIDE A
B DSP ASSY
SIDE A
T CN1901
CN8017
CN8003
F CN805
CN8007
F CN806
CN8012
A CN112
(ANP2022-B)
Q8341
Q8504
Q8501
IC8502
IC8201
IC8702
IC8603
IC8301
IC8601
IC8501
IC8401
IC8701

B DSP ASSY

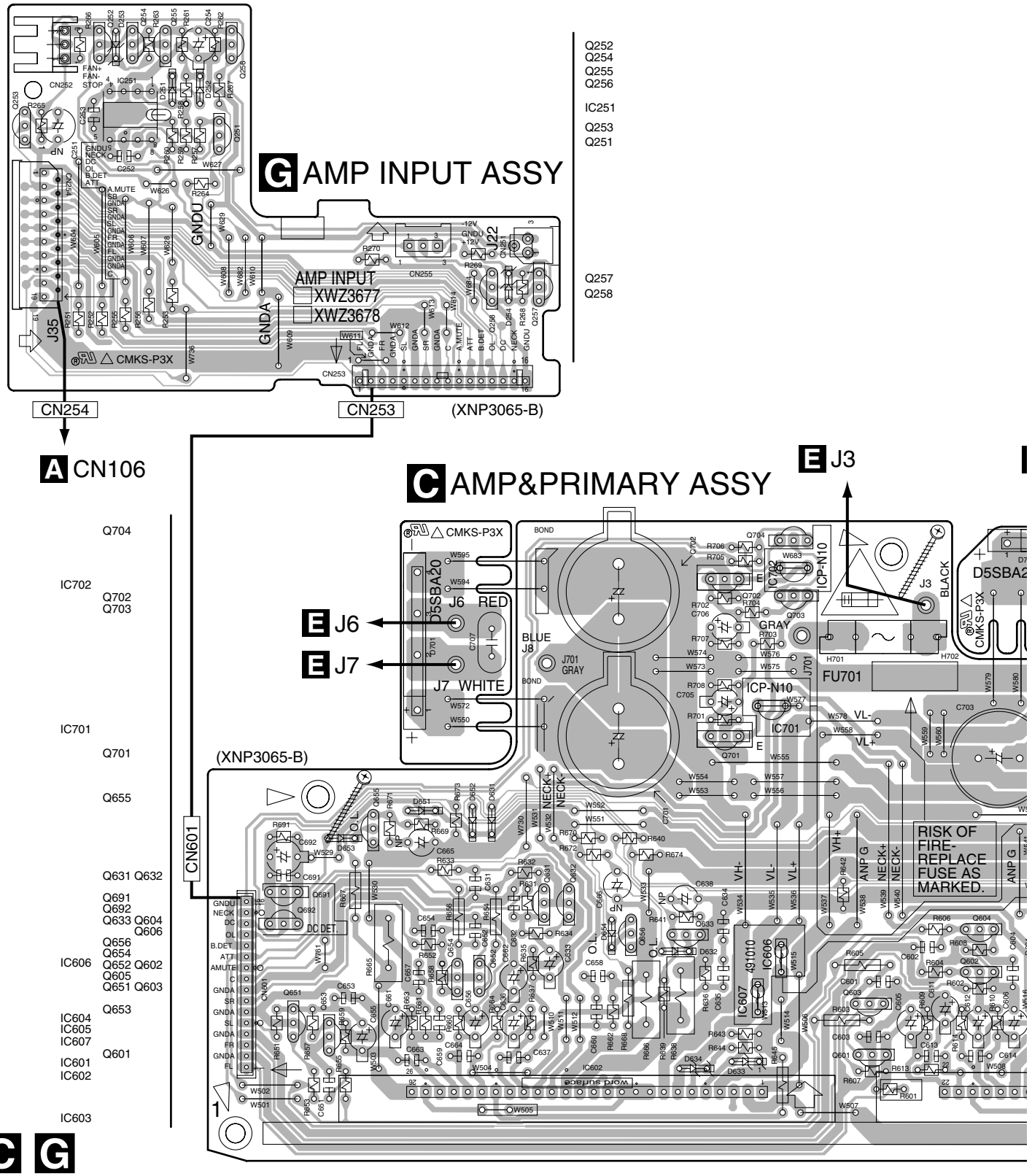
SIDE B



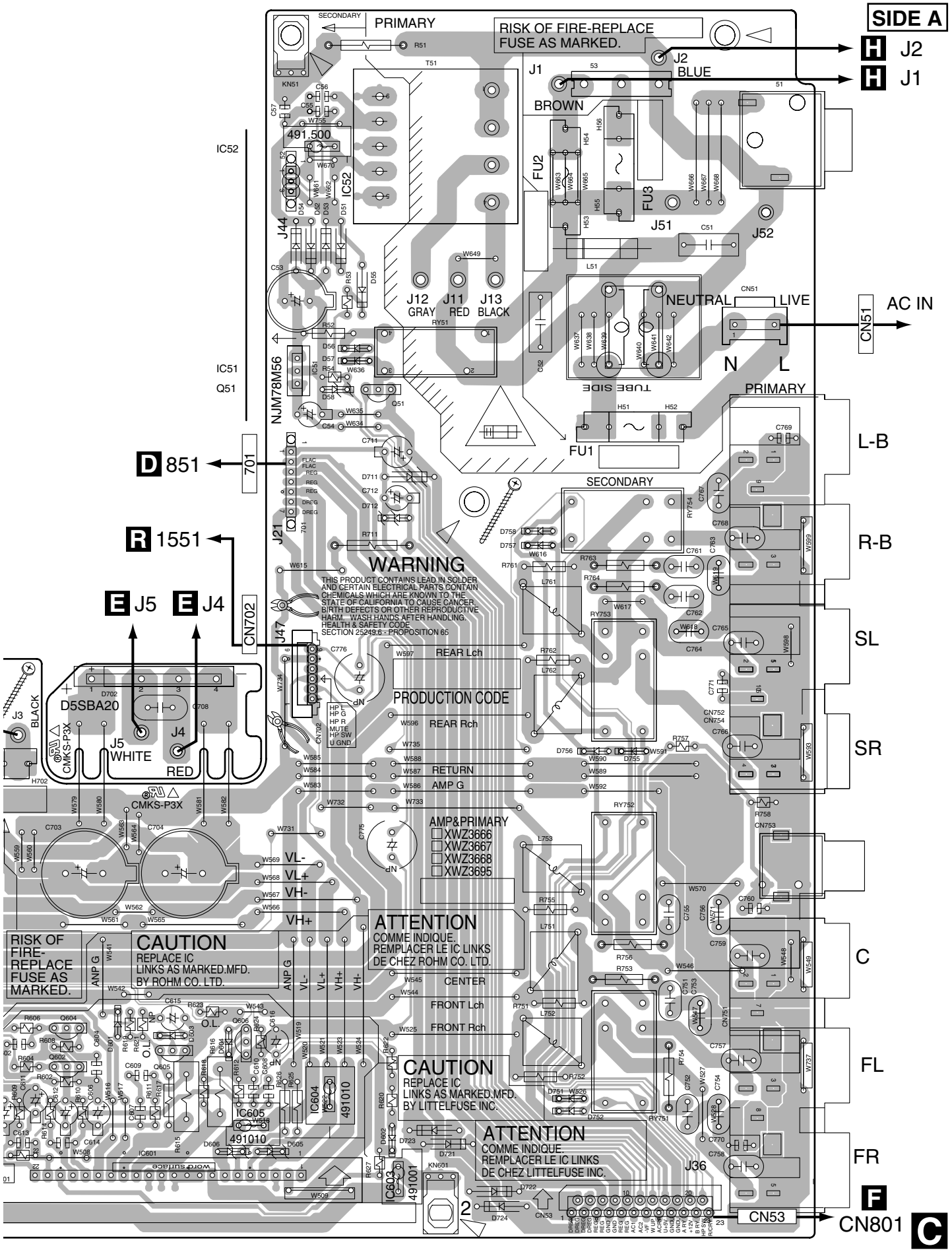
(ANP2022-B)

4.5 AMP & PRIMARY and AMP INPUT ASSYS

SIDE A

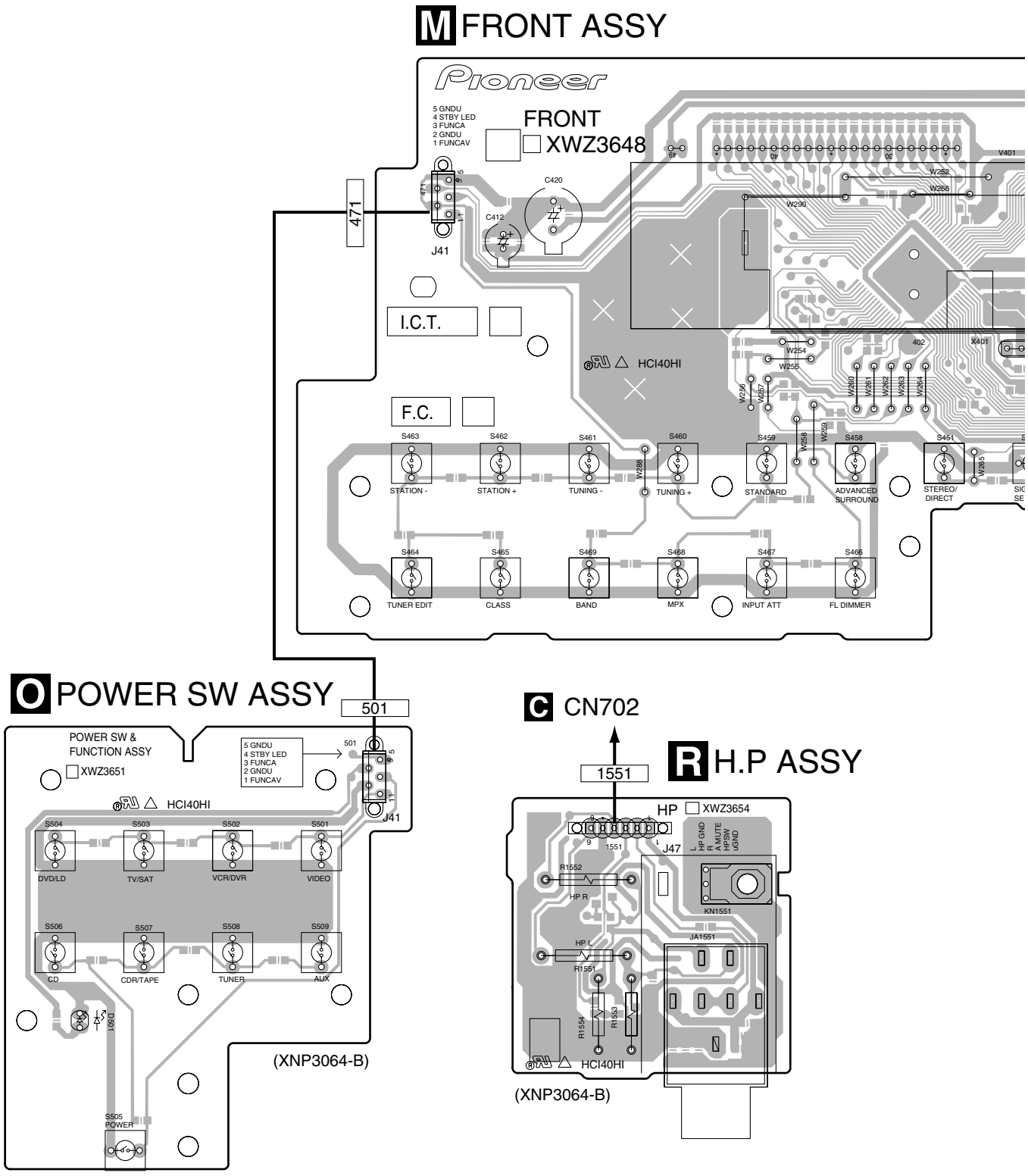


C G

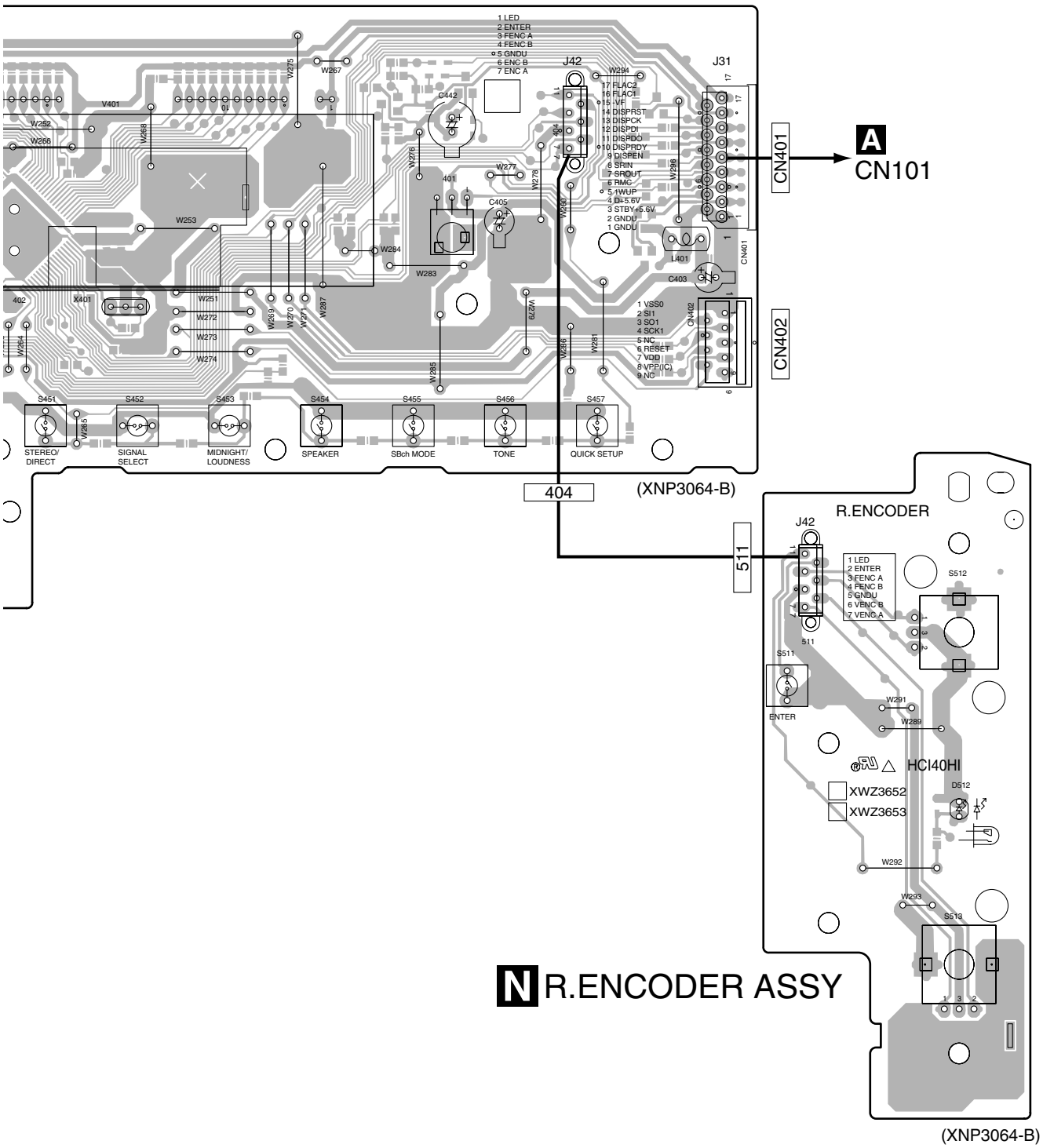

SIDE A
PRIMARY
SECONDARY
RISK OF FIRE-REPLACE FUSE AS MARKED.
H J2
H J1
J2 BLUE
J1
BROWN
491.500
IC52
IC51
Q51
NJM78M56
J44
J12 GRAY
J11 RED
J13 BLACK
FU1
FU2
FU3
J51
J52
NEUTRAL
LIVE
AC IN
CN51
N
L
TUBE SIDE
D 851
701
R 1551
E J5
E J4
CN702
J47
J21
D5SBA20
BLACK
WHITE
RED
J3
J4
J5
CMKS-P3X
WARNING
THIS PRODUCT CONTAINS LEAD IN SOLDER AND CERTAIN ELECTRICAL PARTS CONTAIN CHEMICALS WHICH ARE KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM. WASH HANDS AFTER HANDLING. HEALTH & SAFETY CODE SECTION 25249.6 - PROPOSITION 65
PRODUCTION CODE
REAR Lch
REAR Rch
RETURN
AMP G
VL-
VL+
VH-
VH+
AMP&PRIMARY
XWZ3666
XWZ3667
XWZ3668
XWZ3695
ATTENTION
COMME INDIQUE.
REMPLACER LE IC LINKS
DE CHEZ ROHM CO. LTD.
CENTER
FRONT Lch
FRONT Rch
CAUTION
REPLACE IC
LINKS AS MARKED.MFD.
BY ROHM CO. LTD.
RISK OF FIRE-REPLACE FUSE AS MARKED.
CAUTION
REPLACE IC
LINKS AS MARKED.MFD.
BY LITTELFUSE INC.
ATTENTION
COMME INDIQUE.
REMPLACER LE IC LINKS
DE CHEZ LITTELFUSE INC.
IC601
IC603
IC604
IC605
491010
491001
J36
CN53
CN801
L-B
R-B
SL
SR
C
FL
FR
F
C

4.6 FRONT, R. ENCODER, POWER SW and H. P. ASSYS

SIDE A

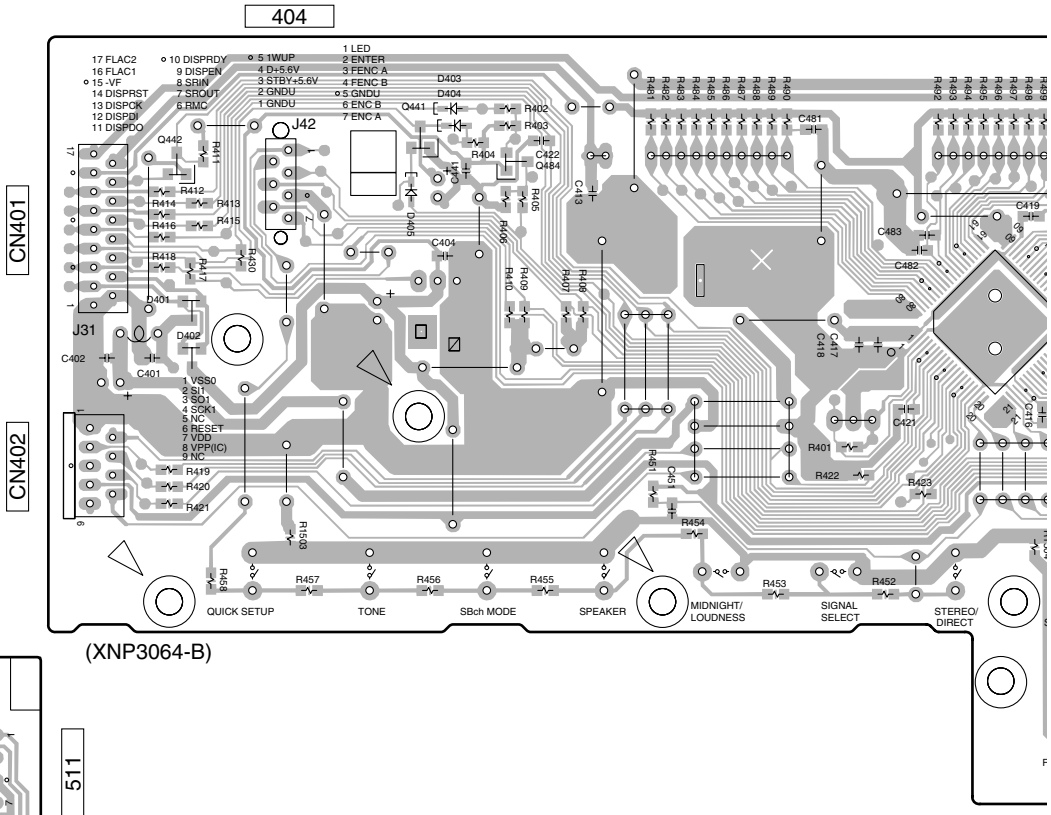


SIDE A

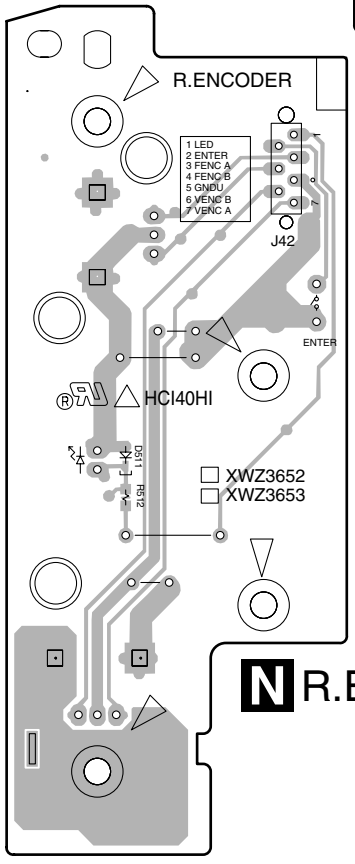

1 LED
2 ENTER
3 FENC A
4 FENC B
5 GNDU
6 ENC B
7 ENC A
J42
J31
W294
17 FLAC2
16 FLAC1
15 VF
14 DISPRST
13 DISPCK
12 DISPDI
11 DISPDO
10 DISPRDY
9 DISPEN
8 SRIN
7 SROUT
6 RMC
5 !WUP
4 D+5.6V
3 STBY+5.6V
2 GNDU
1 GNDU
CN401
A
CN101
CN402
1 VSS0
2 SI1
3 SO1
4 SCK1
5 NC
6 RESET
7 VDD
8 VPP/(C)
9 NC
S451
S452
S453
S454
S455
S456
S457
STEREO/ DIRECT
SIGNAL SELECT
MIDNIGHT/ LOUDNESS
SPEAKER
SBch MODE
TONE
QUICK SETUP
404
(XNP3064-B)
511
R.ENCODER
1 LED
2 ENTER
3 FENC A
4 FENC B
5 GNDU
6 VENC B
7 VENC A
S512
S511
ENTER
W291
W289
HCI40HI
XWZ3652
XWZ3653
D512
W292
W293
S513
N R.ENCODER ASSY
(XNP3064-B)

SIDE B

M FRONT ASSY



(XNP3064-B)

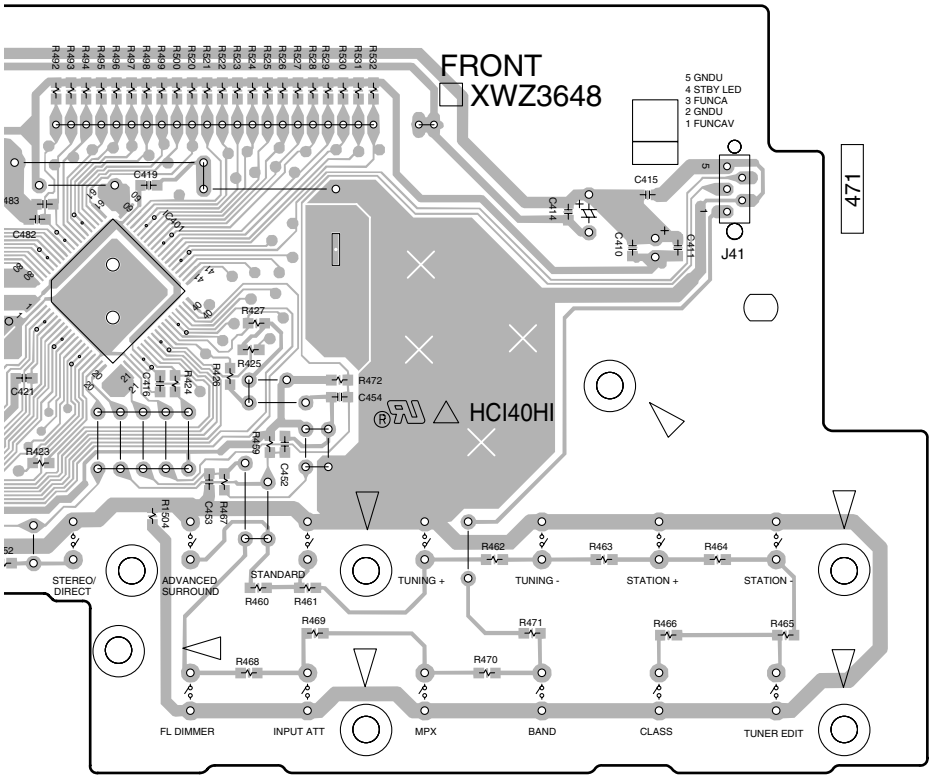


N R.ENCODER ASSY

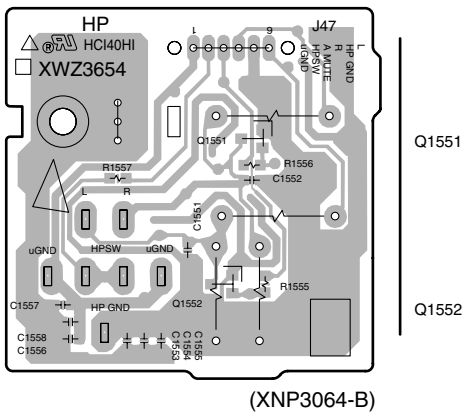
(XNP3064-B)

M N

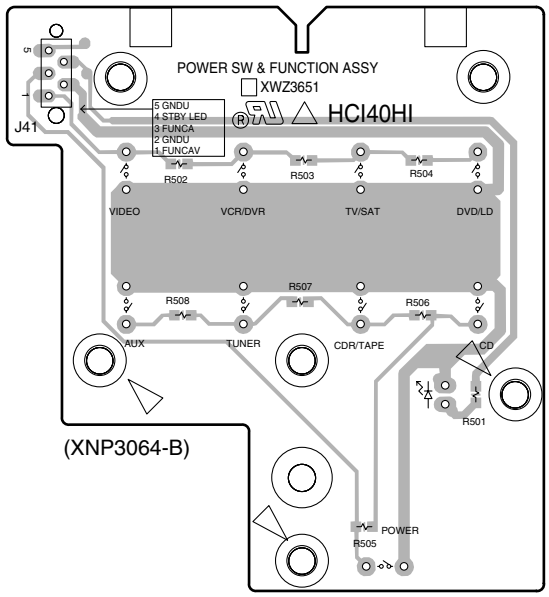
SIDE B



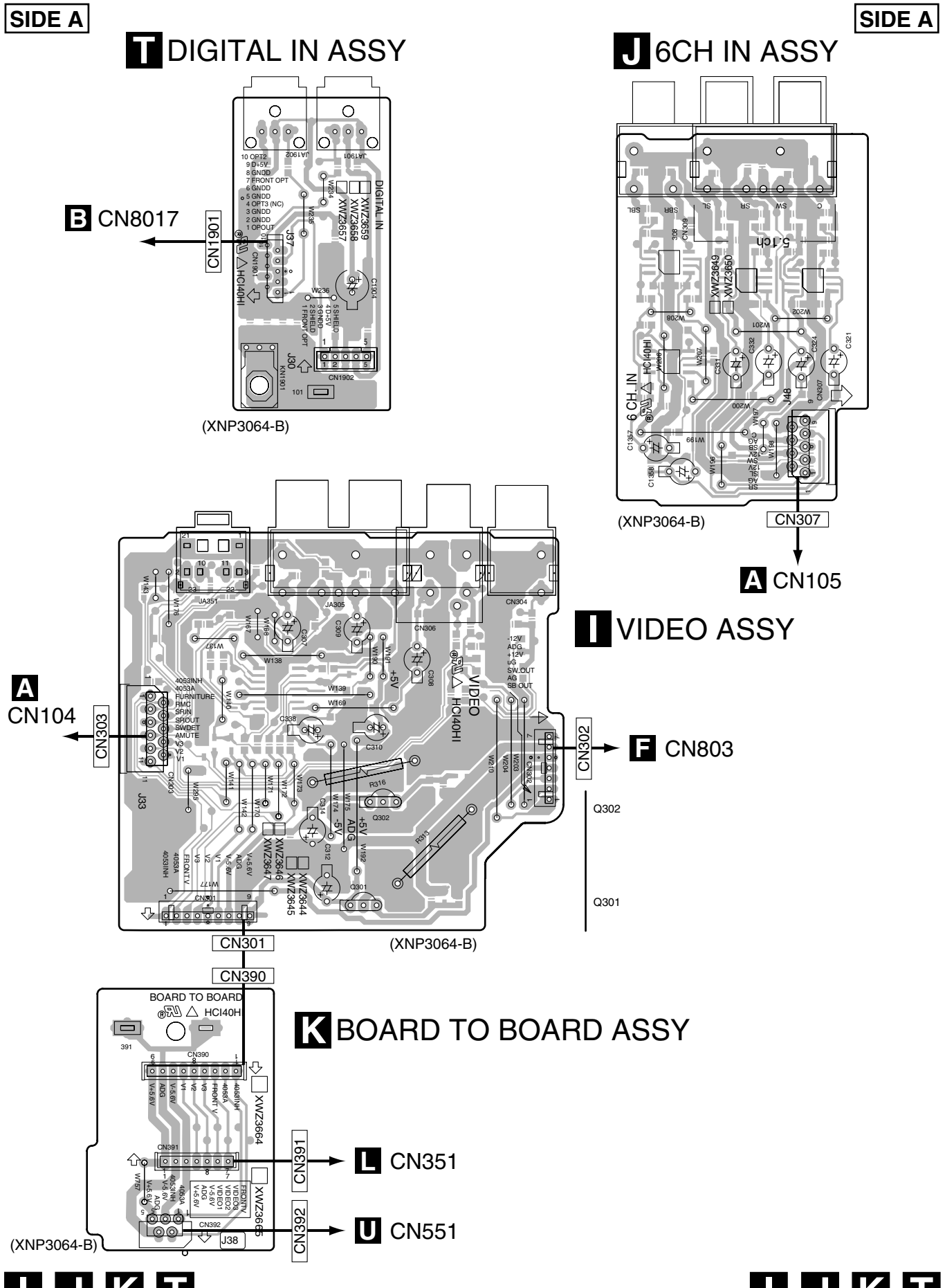
R H.P ASSY



O POWER SW ASSY



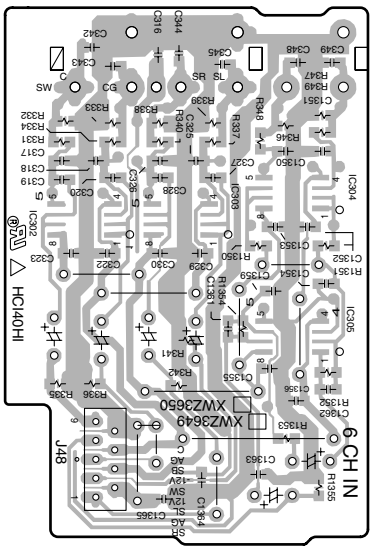
4.7 BOARD TO BOARD, DIGITAL IN, VIDEO and 6CH IN ASSYS



SIDE B

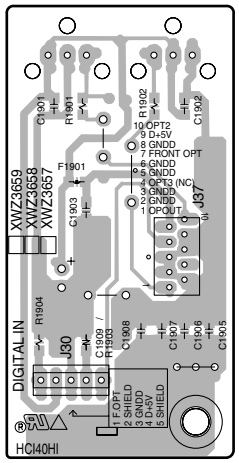
SIDE B

J 6CH IN ASSY



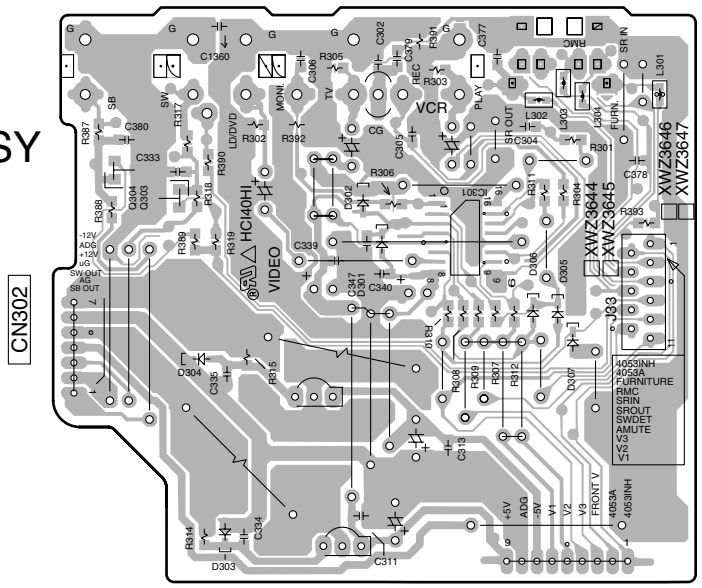
(XNP3064-B)

T DIGITAL IN ASSY



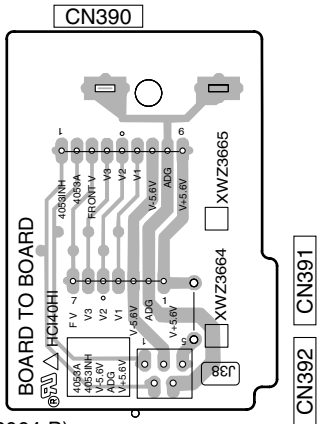
(XNP3064-B)

I VIDEO ASSY



(XNP3064-B)

K BOARD TO BOARD ASSY



(XNP3064-B)

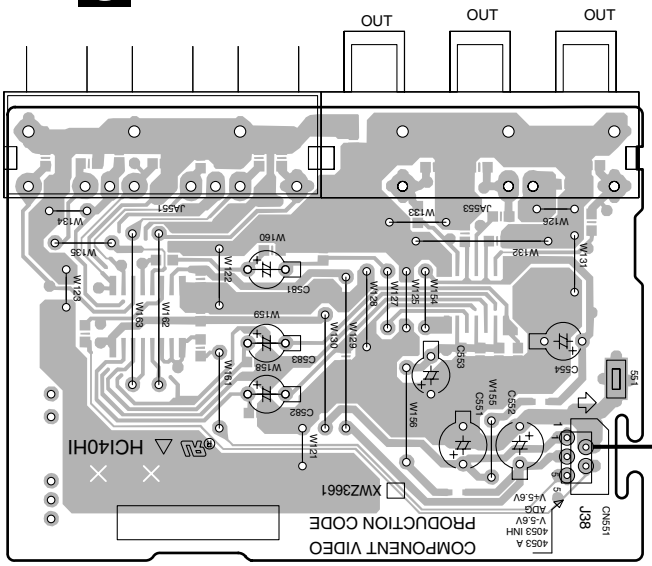
I J K T

I J K T

4.8 S. VIDEO, FRONT VIDEO and COMPONENT ASSYS

SIDE A

U COMPONENTASSY

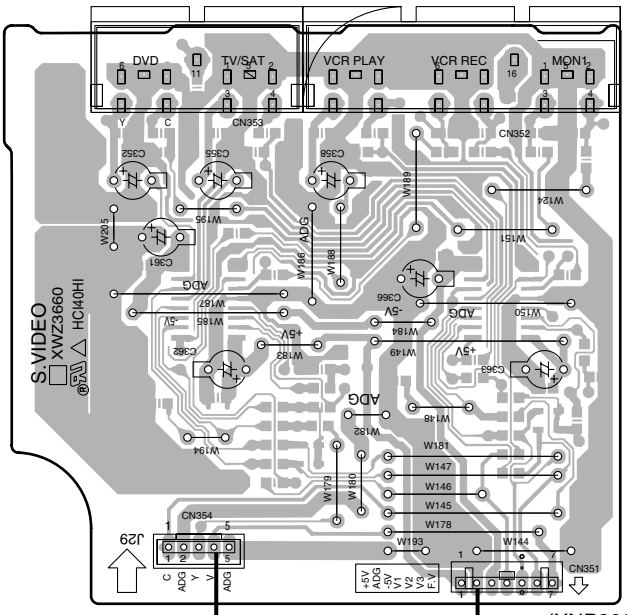


K CN392

(XNP3064-B)

SIDE A

L S. VIDEO ASSY



Q CN354

Q CN901

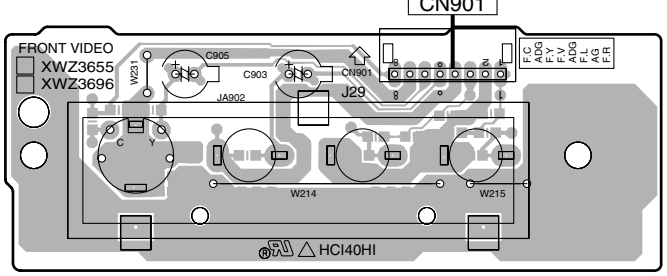
(XNP3064-B)

K CN391

A CN107

L CN354

CN901



(XNP3064-B)

Q FRONT VIDEO ASSY

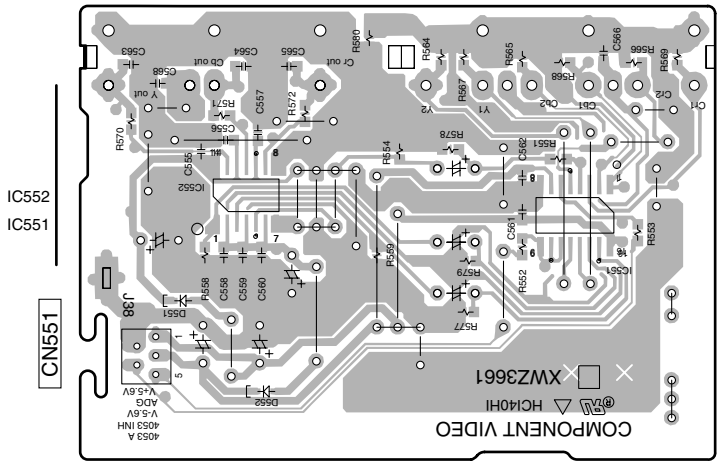
L Q U

L Q U

SIDE B

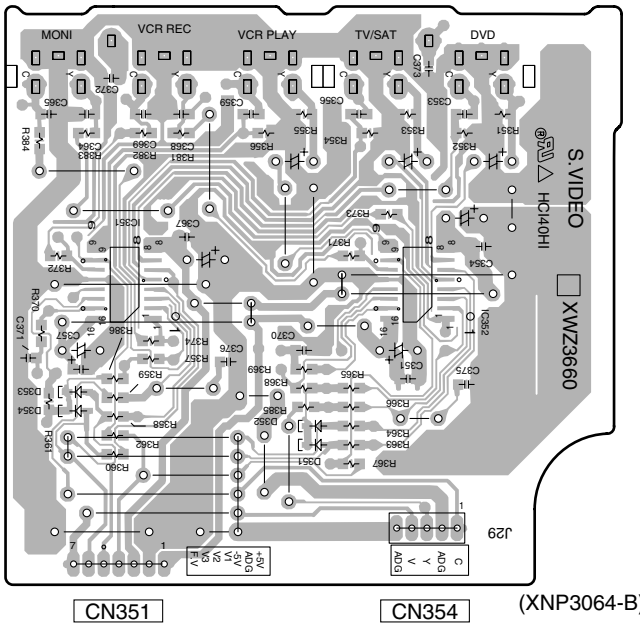
SIDE B

U COMPONENTASSY



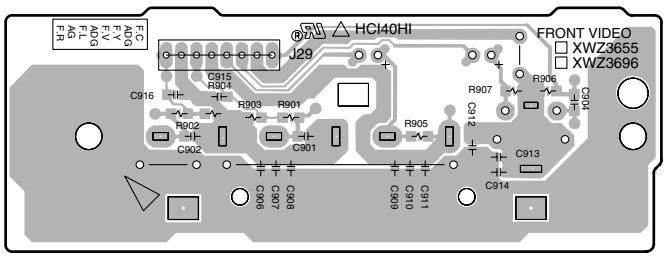
(XNP3064-B)

L S. VIDEO ASSY



(XNP3064-B)

CN901



(XNP3064-B)

Q FRONT VIDEO ASSY

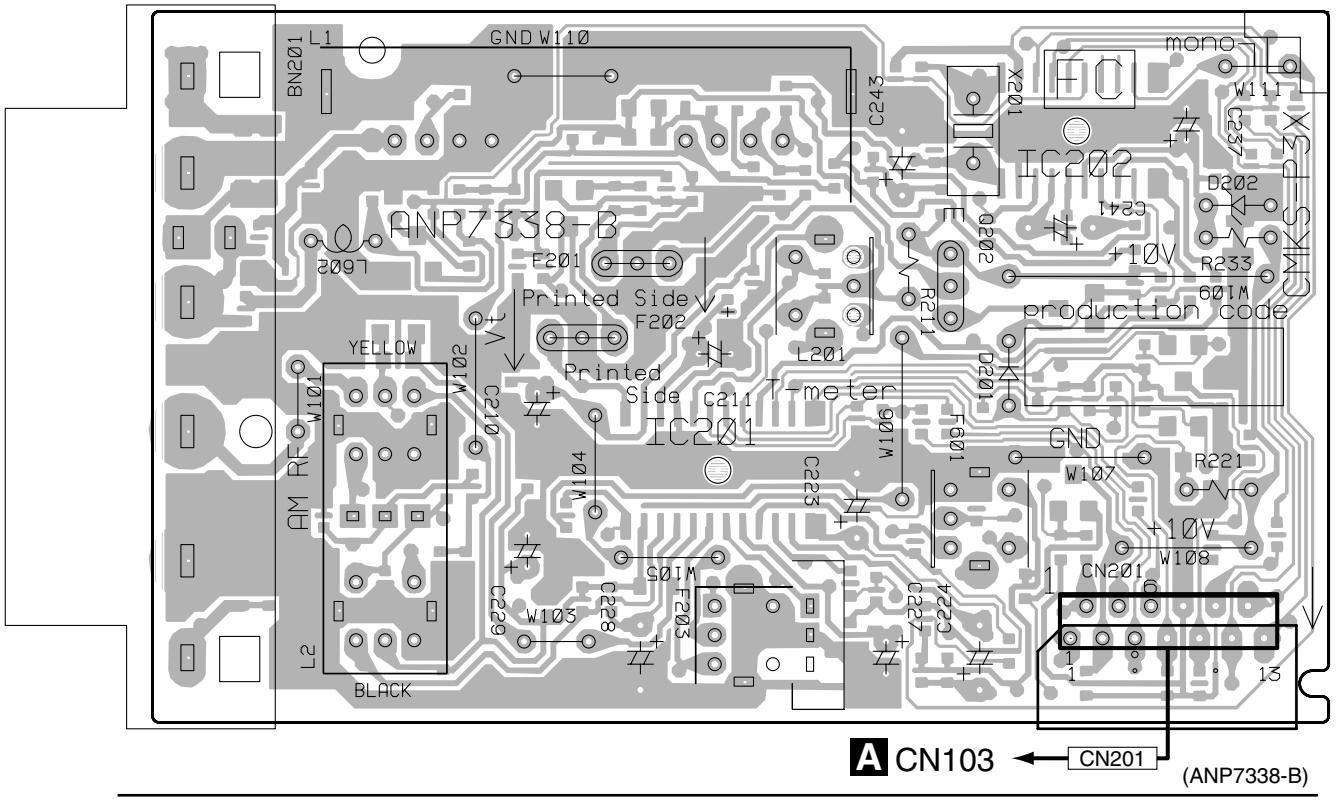
L Q U

L Q U

4.9 FM/AM TUNER MODULE

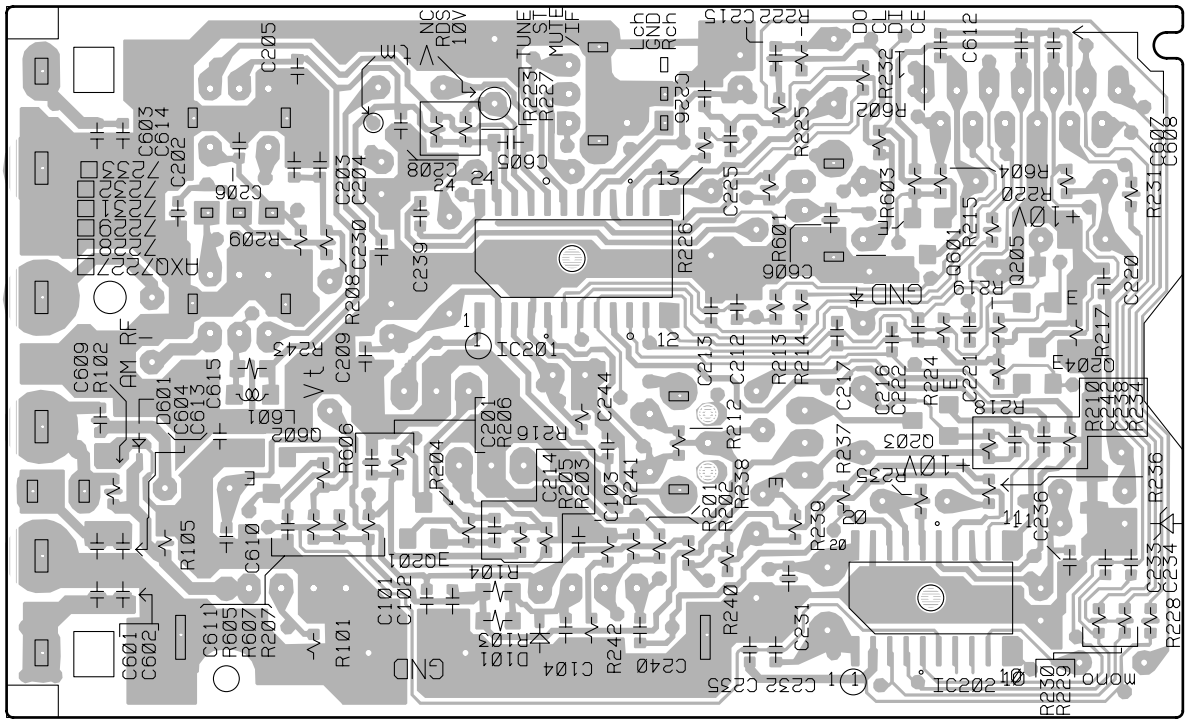
SIDE A **SIDE B**

W FM/AM TUNER MODULE **SIDE A**



Q202

W FM/AM TUNER MODULE **SIDE B**



Q201 IC201 Q203 IC202 Q205 Q204

X **X**

5. PCB PARTS LIST

NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
● *When ordering resistors, first convert resistance values into code form as shown in the following examples.*
Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω	→	*56 x 10¹* →	*561*	*RD1/4PU 5 6 1 J*
47k Ω	→	*47 x 10³* →	*473*	*RD1/4PU 4 7 3 J*
0.5 Ω	→	*R50*		*RN2H R 5 0 K*
1 Ω	→	*1R0*		*RS1P 1 R 0 K*

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω	→	*562 x 10¹* →	*5621*	*RN1/4PC 5 6 2 1 F*

LIST OF ASSEMBLIES

Mark	No.	Description	Part No.
	1	MAIN ASSY	XWK3091
	1	DSP ASSY	AWX1083
NSP	1	AMP & PS ASSY	XWK3082
	2	AMP & PRIMARY ASSY	XWZ3666
	2	REGULATOR ASSY	XWZ3675
	2	AMP INPUT ASSY	XWZ3677
NSP	2	TRANS1 ASSY	XWZ3680
	2	TRANS2 ASSY	XWZ3682
NSP	2	TRANS3 ASSY	XWZ3686
NSP	2	HOLDER ASSY	XWZ3692
NSP	1	COMPLEX ASSY	XWK3075
	2	VIDEO ASSY	XWZ3644
	2	FRONT ASSY	XWZ3648
	2	6CH IN ASSY	XWZ3649
	2	POWER SW ASSY	XWZ3651
	2	R. ENCODER ASSY	XWZ3652
	2	H.P. ASSY	XWZ3654
	2	FRONT VIDEO ASSY	XWZ3655
	2	DIGITAL IN ASSY	XWZ3657
	2	S. VIDEO ASSY	XWZ3660
	2	COMPONENT ASSY	XWZ3661
	2	BOARD TO BOARD ASSY	XWZ3664
	1	FM/AM TUNER MODULE	AXQ7231

COMPLEX ASSY

OTHERS

Mark	No.	Description	Part No.
	J 41	JUMPER WIRED	D15A05-075-2651
	J 42	JUMPER WIRED	D15A07-075-2651
	J 47	JUMPER WIRED	D20PYY0630E

AMP & PS ASSY

OTHERS

Mark	No.	Description	Part No.
	Y 701	AWG14 BOARD IN	ADX7286
	J 21	JUMPER WIRED	D20PYY0715E

A MAIN ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC109		BD3812F
	IC108		BD3813KS
	IC101		BD3841FS
	IC102		NJM2100M
	IC9001		PD5837A
	IC103–IC107, IC110–IC112, IC115		UPC4570G2
	Q5001		2SC2412K
	Q165, Q166, Q321, Q322		2SC3326
	Q341, Q342, Q361, Q362, Q395		2SC3326
	Q229, Q230		2SK208
	Q167, Q231, Q9002-Q9005		DTA124EK
	Q232		DTC124EK
	Q168, Q9001,Q9006		DTC143EK
	Q9007		DTC143TK
	D103–D108, D229, D230, D301		1SS355
	D311, D312, D5001,D9001-D9013		1SS355
	D101, D102		RB501V-40
	D331, D332		UDZS6.8B

COILS AND FILTERS

Mark	No.	Description	Part No.
	L9001,L9002	CHIP SOLID INDUCTOR	ATL7002
	L9003		LFEA2R2J
	L101–L104, L111, L112, L5002	CHIP SOLID INDUCTOR	QTL1013

CAPACITORS

Mark	No.	Description	Part No.
	C9003	(0.22F/5.5V)	ACH7144
	C101–C114, C151, C152		CCSRCH101J50
	C163, C164, C181–C192		CCSRCH101J50
	C197, C198, C243, C244, C263		CCSRCH101J50
	C284, C313, C314, C317, C318		CCSRCH101J50
	C323, C324, C343, C344, C363		CCSRCH101J50
	C386		CCSRCH101J50
	C1031,C1041,C117, C118		CCSRCH220J50
	C205–C208, C245–C248, C265		CCSRCH331J50
	C267, C286, C288		CCSRCH331J50
	C203, C204		CCSRCH471J50
	C366		CEANP4R7M50
	C121–C128, C131–C142		CEAT100M50
	C167, C168, C209, C210		CEAT100M50
	C213, C214, C249, C250		CEAT100M50
	C269, C270, C290, C301–C306		CEAT100M50
	C321, C322, C341, C342		CEAT100M50
	C361, C362, C380, C382, C384		CEAT100M50
	C5007		CEAT101M16
	C169, C9002		CEAT221M6R3

Mark No.	Description	Part No.
	C201, C202, C241, C242	CEAT2R2M50
	C261, C262, C282, C9005	CEAT2R2M50
	C9007	CEAT331M6R3
	C325, C326, C345, C346, C365	CEAT470M25
	C388	CEAT470M25
	C155, C156	CEAT470M50
	C333, C334	CEAT471M10
	C9013	CEAT471M6R3
	C165, C166, C370	CEAT4R7M50
	C170	CKSQYB104K16
	C320, C392, C5001,C9015,C9016	CKSRYB102K50
	C115, C116, C153, C154, C171	CKSRYB103K50
	C179, C180, C199, C215–C218	CKSRYB103K50
	C251, C252, C266, C271, C272	CKSRYB103K50
	C291, C292, C315, C316, C319	CKSRYB103K50
	C327–C330, C347, C348	CKSRYB103K50
	C367, C368, C389, C390, C5002	CKSRYB103K50
	C9001,C9004,C9008,C9017	CKSRYB103K50
	C219, C220, C309–C312	CKSRYB104K16
	C5003,C9006	CKSRYB105K10
	C264	CKSRYB223K25
	C257, C258, C277, C278, C298	CKSRYB472K50
	C307, C308, C364	CKSRYB472K50
	C9011,C9014	CKSRYB473K16
	C268	CKSRYB562K50
	C391	CKSRYF104Z16

RESISTORS

⚠	R171, R172	RS1/16S470J
⚠	R173, R174	RS1/16S472J
⚠	R311, R312	RS1LMF101J
	Other Resistors	RS1/16S###J

OTHERS

	CN105 9P CONNECTOR	52044-0945
	CN104 11P CONNECTOR	52044-1145
	CN103 13P CONNECTOR	52044-1345
	CN102 10P CONNECTOR	52045-1045
	CN101 17P CONNECTOR	52045-1745
	CN106, CN112 7P CONNECTOR	52045-1945
	JA101–JA104 PIN JACK(4P)	AKB7048
	CN107 CONNECTOR POST	B3B-PH-K
	CN109 18P SOCKET	KP200TA18L
	CN111 20P SOCKET	KP200TA20L
	101–103 PCB BINDER	VEF1040
	X9001 CERAMIC RESONATOR (15.7 MHz)	ASS7032

B DSP ASSY

SEMICONDUCTORS

	IC8201	AK4114VQ
	IC8401	AK4529VQ
	IC8501	DSPD56367PV150
	IC8601	IS61LV6416-12T
	IC8602	IS63LV1024-12T
	IC8901	NJM2391DL1-33
	IC8902	NJU7223DL1-18
	IC8603	PD8116A
	IC8101	TC74HCU04AF
	IC8701	TC74LVX244FT
	IC8702	TC74VHCT244AFT
	IC8503	TC7WH125FU
	IC8502	TC7WU04FU
	Q8504	UMD2N
	Q8503	UN5112
	Q8501	UN5212
	D8501	1SS355
	D8401	DAN202K
	D8402,D8502,D8503	DAP202K

COILS AND FILTERS

	L8002,L8004,L8501,L8502	ATL7002
	L8601-L8603 CHIP SOLID INDUCTOR	ATL7002
	L8101-L8104,L8201,L8203,L8204	QTL1013
	L8401,L8402,L8504,L8505	QTL1013
	L8701,L8702 CHIP SOLID INDUCTOR	QTL1013

CAPACITORS

	C8209,C8210	CCSRCH100D50
	C8421	CCSRCH101J50
	C8107,C8112	CCSRCH470J50
	C8007,C8008,C8109,C8201,C8212	CCSRCH471J50
	C8214,C8404,C8409-C8414	CCSRCH471J50
	C8416,C8417,C8419,C8505,C8507	CCSRCH471J50
	C8509,C8511,C8512,C8515,C8518	CCSRCH471J50
	C8520,C8522,C8524,C8526,C8528	CCSRCH471J50
	C8530,C8532,C8534,C8536,C8539	CCSRCH471J50
	C8541,C8543,C8545,C8551,C8552	CCSRCH471J50
	C8602,C8603,C8606,C8607,C8610	CCSRCH471J50
	C8703,C8706	CCSRCH471J50
	C8548,C8549	CCSRCH8R0D50
	C8701,C8704	CEV100M16
	C8105,C8406,C8415,C8546,C8547	CEV101M16
	C8613,C8902,C8904	CEV101M16
	C8217,C8225,C8408	CEV470M6R3
	C8204,C8555	CKSRYB102K50
	C8009,C8104,C8114,C8405,C8418	CKSRYB103K50
	C8517,C8554	CKSRYB103K50
	C8010,C8115,C8202,C8207,C8213	CKSRYB104K16
	C8215,C8407,C8420,C8422,C8504	CKSRYB104K16
	C8513,C8521,C8523,C8525,C8527	CKSRYB104K16
	C8529,C8531,C8533,C8535	CKSRYB104K16
	C8537,C8538,C8540,C8542,C8544	CKSRYB104K16
	C8550,C8553,C8601,C8604,C8605	CKSRYB104K16
	C8608,C8609,C8702,C8705,C8901	CKSRYB104K16
	C8903	CKSRYB104K16
	C8110,C8516	CKSRYB105K6R3
	C8514	CKSRYB333K16
	C8203	CKSRYB473K50

RESISTORS

	R8506	RAB4C101J
	R8201	RS1/16S1802F
	Other Resistors	RS1/16S###J

OTHERS

	CN8012 19P CONNECTOR	52045-1945
	JA8101 2P PIN JACK	AKB7131
	CN8003 13P SOCKET	AKP7070
	CN8007 19P SOCKET	AKP7073
	JA8102 OPT. LINK IN	GP1FA513RZB
	CN8017 10P CONNECTOR	VKN1414
	X8501 CRYSTAL RESONATOR	VSS1171

Mark	No.	Description	Part No.
		(20 MHz)	
	X8201	CRYSTAL RESONATOR (24.576 MHz)	XSS3003

C AMP & PRIMARY ASSY

SEMICONDUCTORS

⚠	IC603	PROTECTOR(1A)	AEK7009
⚠	IC604–IC607	PROTECTOR(125mA)	AEK7022
	IC701, IC702	PROTECTOR(400mA)	ICP-N10
	IC51		NJM78M56FA
⚠	IC601, IC602		PAC011A
	Q703		2SA1145
	Q702		2SA1837D1
	Q696, Q697		2SC1740S
	Q704		2SC1845
	Q605, Q606, Q633, Q655, Q656		2SC2240
	Q683		2SC2240
	Q601–Q604, Q631, Q632		2SC2878
	Q651–Q654, Q681, Q682		2SC2878
	Q701		2SC4793D1
	Q51		KRC101M
	D56, D601, D603, D606, D608		1SS133
	D631, D632, D651–D654		1SS133
	D683, D684, D752, D754, D758		1SS133
⚠	D701, D702		D5SBA20(B)
	D602, D604, D681, D682		MTZJ16A
	D711		MTZJ22D
	D58		MTZJ5.1A
	D712		MTZJ5.1B
⚠	D51–D55, D721–D724		S5688G

COILS AND FILTERS

⚠	L51	LINE FILTER	ATF7018
	L751–L754, L761, L762	COIL	ATH1004

SWITCHES AND RELAYS

	RY751–RY754		XSR3002
⚠	RY51		XSR3003

CAPACITORS

	C707, C708	(0.01/AC250V)	ACG1005
⚠	C51, C52	(10000pF/AC250V)	ACG7020
	C611–C614, C636, C637		CCPUCH6R8K50
	C661–C664, C686, C687		CCPUCH6R8K50
	C615, C616, C638, C665, C666		CEANP2R2M50
	C688		CEANP2R2M50
	C775, C776		CEANP470M50
	C712		CEAT101M10
	C609, C610, C635, C659, C660		CEAT101M16
	C685		CEAT101M16
	C711		CEAT101M35
	C53		CEAT102M16
	C697		CEAT221M10
	C54		CEAT470M25
	C605, C606, C633, C655, C656		CEAT4R7M50
	C683		CEAT4R7M50
	C705, C706		CEHAT100M2A
	C751, C752, C755, C761, C762		CFTYA104J50
	C771		CFTYA104J50
	C607, C608, C634, C657, C658		CKPUYB101K50
	C684		CKPUYB101K50
	C696		CKPUYB102K50
	C603, C604, C632, C653, C654		CKPUYB331K50
	C682		CKPUYB331K50
	C55–C57		CKPUYF103Z25
	C703, C704	(3300/42V)	XCH3012
	C701, C702	(4700/71V)	XCH3013

RESISTORS

⚠	R51	(2.2M/ 1/2W)	RCN1080
⚠	R52		RD1/2PM270J
⚠	R615		RD1/4PU331J
⚠	R751, R752, R755, R761, R762		RD1/4PUF101J
⚠	R772		RD1/4PUF101J
⚠	R753, R754, R756, R763, R764		RS1LMF4R7J
⚠	R771		RS1LMF4R7J
⚠	R711		RS2LMF392J
⚠	R617, R622, R639, R667, R668		XCN3001
⚠	R691	(0.22/5W)	XCN3001
	Other Resistors		RD1/4PU###J

OTHERS

	CN604 7P CONNECTOR	52045-0745
	CN53 23P CONNECTOR	52045-2345
	CN702 6P JUMPER CONNECTOR	52147-0610
	CN751 SPEAKER TERMINAL 8-P	AKE7074
	CN753 SPEAKER TERMINAL 6-P	AKE7075
	CN752 SPEAKER TERMINAL 4-P	AKE7076
	51 AC SOCKET 1-P	AKP1060
	H51, H52, H701, H702 FUSE CLIP	AKR7001
⚠	T51 STANDBY TRANSFORMER	ATT7043
	CN601 18P PLUG	KM200TA18
	CN51 AC CODE SOCKET	RKP1751
	KN51, KN601 EARTH METAL FITTING	VNF1084
	701 7P CABLE HOLDER	XKP3047

D TRANS2 ASSY

SEMICONDUCTORS

⚠	IC853	PROTECTOR (3A)	AEK7015
⚠	IC851, IC852	PROTECTOR (4A)	AEK7018

OTHERS

	851 7P CABLE HOLDER	XKP3047

E TRANS3 ASSY

TRANS3 ASSY has no service part.

F REGULATOR ASSY

SEMICONDUCTORS

	IC803, IC804	NJM78M05FA
	IC801, IC805	NJM78M12FA
	IC806	NJM78M56FA
	IC802	NJM79M12FA
	Q801, Q803, Q805	KRA103M
	Q802, Q804, Q806	KRC102M
	D809–D811	MTZJ6.2A
⚠	D801–D804	S5688G

CAPACITORS

	C808, C811, C815	CEAT101M10
	C805, C806, C813	CEAT101M16
	C801, C802	CEAT222M25
	C809	CEAT472M16

Mark No.	Description	Part No.
	C803, C804, C807, C810, C812	CKPUYF103Z25
	C814	CKPUYF103Z25
	OTHERS	
	CN801 23P CONNECTOR	52045-2345
	CN805 13P PLUG	AKP7059
	CN806 19P PLUG	AKP7062
	CN804 18P PLUG	KM200TA18
	CN802 20P PLUG	KM200TA20
	CN803 7P PLUG	KM200TA7

G AMP INPUT ASSY

	SEMICONDUCTORS	
	IC251	NJM4558D-D
	Q257	2SA933S
	Q251, Q256	2SC2878
	Q252	2SD1858X
	Q254	KRA103M
	Q253, Q255	KRC103M
	D251, D252	1SS133
	D253	MTZJ27D
	D254	MTZJ5.1B
	CAPACITORS	
	C251	CEANP470M25
	C254	CEAT101M25
	C252, C253	CKPUYF103Z25
	RESISTORS	
	All Resistors	RD1/4PU###J
	OTHERS	
	CN251 3P CONNECTOR	52044-0345
	CN254 19P CONNECTOR	52044-1945
	CN252 3P PLUG	KM250MA3L
	CN253 18P SOCKET	KP200TA18L

H TRANS1 ASSY

TRANS1 ASSY has no service part.

I VIDEO ASSY

	SEMICONDUCTORS	
	IC301	NJM2595M
	Q302	2SA1515
	Q303, Q304	2SC3326
	Q301	2SC3377
	D301, D302, D305, D306	1SS355
	D307	UDZS5.1B
	D303, D304	UDZS6.2B
	COILS AND FILTERS	
	L301–L304 CHIP SOLID INDUCTOR	QTL1013
	CAPACITORS	
	C347	CCSRCH470J50
	C380	CCSRCH331J50
	C307–C310, C312, C314, C338	CEAT470M25
	C1360,C302, C379	CKSRYB103K50
	C339, C340	CKSRYB104K25
	C304–C306	CKSRYB221K50
	C333	CKSRYB331K50
	C311, C313	CKSRYB473K25

Mark No.	Description	Part No.
	RESISTORS	
⚠	R313, R316	RS3LMF390J
	Other Resistors	RS1/16S###J
	OTHERS	
	CN303 11P CONNECTOR	52044-1145
	JA305 PIN JACK(4P)YELLOW	AKB7100
	CN302 7P SOCKET	KP200TA7L
	CN301 9P SOCKET	KP200TA9L
	CN306 2P PIN JACK	XKB3041
	CN304 1P PIN JACK	AKB7042
	JA351 2P JACK	XKN3013

J 6CH IN ASSY

	SEMICONDUCTORS	
	IC302, IC303	NJM4558MD
	CAPACITORS	
	C319, C320	CCSRCH101J50
	C327, C328, C342–C345	CCSRCH101J50
	C321, C324, C331, C332	CEAT4R7M50
	C1363-C1365	CKSRYB102K50
	C316	CKSRYB103K50
	C322, C323, C329, C330	CKSRYB103K50
	C317, C318	CKSRYB221K50
	C325, C326	CKSRYB221K50
	RESISTORS	
	All Resistors	RS1/16S###J
	OTHERS	
	CN307 9P CONNECTOR	52044-0945
	CN309 4P PIN JACK	AKB7087

K BOARD TO BOARD ASSY

	OTHERS	
	CN392 5P CONNECTOR	52045-0545
	CN391 7P PLUG	KM200TA7
	CN390 9P PLUG	KM200TA9

L S. VIDEO ASSY

	SEMICONDUCTORS	
	IC351, IC352	NJM2595M
	D351–D354	1SS355
	CAPACITORS	
	C375, C376	CCSRCH470J50
	C352, C355, C358, C361–C363	CEAT470M25
	C366	CEAT470M25
	C372, C373	CKSRYB103K50
	C351, C353, C354, C356, C357	CKSRYB104K25
	C359, C367	CKSRYB104K25
	C364, C365, C368–C371	CKSRYB221K50
	RESISTORS	
	All Resistors	RS1/16S###J
	OTHERS	
	CN353 2-4P MINI DIN SOCKET	AKP7020
	CN352 3-4P MINI DIN SOCKET	AKP7043
	CN354 CONNECTOR POST	B5B-PH-K
	CN351 7P SOCKET	KP200TA7L

Mark	No.	Description	Part No.
M		**FRONT ASSY**	
		SEMICONDUCTORS	
	IC401		PE5346A
	Q484		2SA1037K
	Q441, Q442		DTC124EK
	D403–D405		1SS355
	D401, D402		DAN202K
		COILS AND FILTERS	
	L401		LFEA2R2J
		SWITCHES AND RELAYS	
	S451–S469		ASG7013
		CAPACITORS	
	C482, C483		CCSRCH221J50
	C481		CCSRCH471J50
	C442		CEAL470M10
	C403		CEAT221M6R3
	C405		CEAT470M10
	C412		CEAT470M50
	C415, C451–C454		CKSRYB102K50
	C401, C402, C404, C410, C411		CKSRYB103K50
	C419, C441		CKSRYB103K50
	C418, C421		CKSRYB104K16
	C420		XCH3011
		RESISTORS	
	All Resistors		RS1/16S###J
		OTHERS	
	471	CABLE HOLDER (5P)	51063-0505
	404	CABLE HOLDER (7P)	51063-0705
	CN401	17P CONNECTOR	52044-1745
	CN402	9P CONNECTOR	52492-0920
	V401	FL TUBE	XAV3018
	X401	CERAMIC RESONATOR (5 MHz)	VSS1142
	401	REMOTE RECEIVERUNIT	GP1UM28XK
N		**R. ENCODER ASSY**	
		SWITCHES AND RELAYS	
	S511		ASG7013
	S513	ROTARY ENCODER	XSX3005
	S512	ROTARY ENCODER	XSX3006
		RESISTORS	
	All Resistors		RS1/16S###J
		OTHERS	
	511	CABLE HOLDER (7P)	51063-0705
O		**POWER SW ASSY**	
		SEMICONDUCTORS	
	D501		SLR-343VC(NPQ)
		SWITCHES AND RELAYS	
	S501–S509		ASG7013
		RESISTORS	
	All Resistors		RS1/16S###J
		OTHERS	
	501	CABLE HOLDER (5P)	51063-0505
Q		**FRONT VIDEO ASSY**	
		CAPACITORS	
	C901, C902, C915, C916		CCSRCH101J50
	C903, C905		CEAL470M25
	C908, C911, C914		CKSRYB103K50
	C904, C906, C909, C912		CKSRYB104K25
	C907, C910, C913		CKSRYB471K50
		RESISTORS	
	All Resistors		RS1/16S###J
		OTHERS	
	JA902	PIN JACK (4P)	AKX7014
R		**H.P. ASSY**	
		SEMICONDUCTORS	
	Q1551,Q1552		2SC3326
		CAPACITORS	
	C1554,C1557		CCSRCH471J50
	C1553,C1556		CKSRYB103K50
	C1555,C1558		CKSRYB104K16
	C1551,C1552		CKSRYB223K50
		RESISTORS	
⚠	R1553,R1554		RS1LMF151J
⚠	R1551,R1552		RS2LMF331J
	Other Resistors		RS1/16S###J
		OTHERS	
	1551	6P CABLE HOLDER	51048-0600
	JA1551	HEADPHONE JACK	RKB1014
	KN1551	EARTH METAL FITTING	VNF1084
T		**DIGITAL IN ASSY**	
		COILS AND FILTERS	
	F1901	CHIP BEAD	DTF1067
		CAPACITORS	
	C1907,C1909		CCSRCH101J50
	C1904		CEAL101M10
	C1908		CKSRYB102K50
	C1903,C1906		CKSRYB103K50
	C1902,C1905		CKSRYB104K25
		RESISTORS	
	All Resistors		RS1/16S###J
		OTHERS	
	JA1902	OPT. LINK OUT 12MB/S	GP1FA513TZ
	CN1901	10P CONNECTOR	VKN1186
	KN1901	WRAPPING TERMINAL	VNF1084
U		**COMPONENT ASSY**	
		SEMICONDUCTORS	
	IC552		NJM2581M
	IC551		TC74HC4053AF
	D551, D552		1SS355
		CAPACITORS	
	C551–C554		CEAT101M10
	C555–C562, C566, C568		CKSRYB103K50

Mark	No.	Description	Part No.
		RESISTORS	
		All Resistors	RS1/16S###J
		OTHERS	
	CN551	5P CONNECTOR	52045-0545
	JA553	3P RCA PINJACK	AKB7124
	JA551	6P RCA PINJACK	AKB7128

W FM/AM TUNER MODULE

Mark	No.	Description	Part No.
		SEMICONDUCTORS	
	IC201		BA1451F
	IC202		LC72131MD
	Q201, Q204, Q205		2SC2412K
	Q202		DTA124ES
	Q203		DTC124EK
	D201		1SS133
	D202		MTZJ5.1C
		COILS AND FILTERS	
	L201	FM DETECTOR COIL	ATE7003
	F202	CERAMIC FILTER	ATF-107
	F201	CERAMIC FILTER	ATF-119
	F203	AM CERAMIC FILTER	ATF7026
		CAPACITORS	
	C206		CCSRCH100D50
	C212, C213, C226, C233–C235		CCSRCH101J50
	C240		CCSRCH101J50
	C231, C232		CCSRCH150J50
	C223		CEAT100M50
	C229		CEAT101M10
	C224		CEAT1R0M50
	C227		CEAT220M25
	C241		CEAT2R2M50
	C243		CEAT330M16
	C228		CEAT3R3M50
	C237		CEAT470M10
	C211		CEJA1R0M50
	C210		CEJQ470M16
	C204, C238, C602		CKSRYB102K50
	C101, C102, C208, C220, C239		CKSRYB103K50
	C242, C601		CKSRYB103K50
	C216, C217, C225		CKSRYB153K50
	C201, C205, C209, C214, C230		CKSRYB223K50
	C236, C603		CKSRYB223K50
	C221		CKSRYB224K10
	C202, C222		CKSRYB473K16
	C215		CKSRYB681K50
		RESISTORS	
	R211		RD1/4PU221J
	R221		RD1/4PU222J
	R233		RD1/4PU391J
	R243		RS1/10S0R0J
	R103		RS1/10S331J
	R104		RS1/10S391J
	Other Resistors		RS1/16S###J
		OTHERS	
	CN201	13P CONNECTOR	52044-1345
	BN201	TERMINAL 4-P	AKA7003
		(SHIELD CASE T)	ANK7072
		(SHIELD CASE B)	ANK7073
	X201	CRYSTAL RESONATOR (7.2MHz)	ASS1093
		FM FRONTEND	AXF7003
		AM RF TUNING BLOCK	AXX7071

6. ADJUSTMENT
6.1 TUNER SECTION

■ AM Tuner Section
• There is no adjustment in the AM tuner.

■ FM Tuner Section
• Set the mode selector to FM BAND.
• Connect the wiring as shown in Fig. 1.

Step No.	Adjustment Title	ANT. Input level and signal condition			Adjustment	
		Frequency (MHz)	Modulation	Input Level (dBμV)	Adjust point	Contents
1	T-METER Adjustment	98	OFF	80	L201	Adjust L201 so that the DC voltage between Pin 21 and Pin 23 of IC201 (Test point Vtm) gets within 0 ± 50mV.

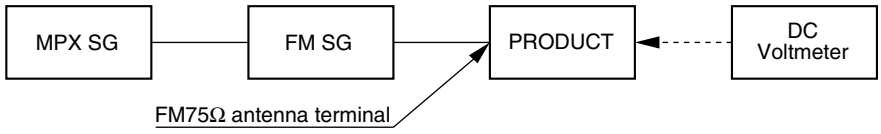


Fig.1 Adjustment Wiring Diagram

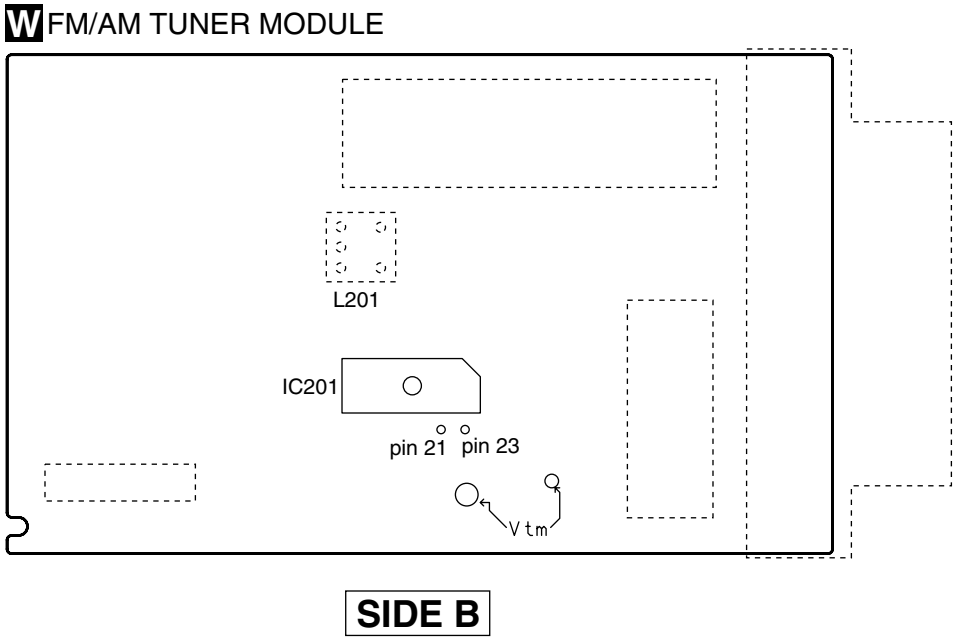


Fig.2 Adjustment Point

7. GENERAL INFORMATION

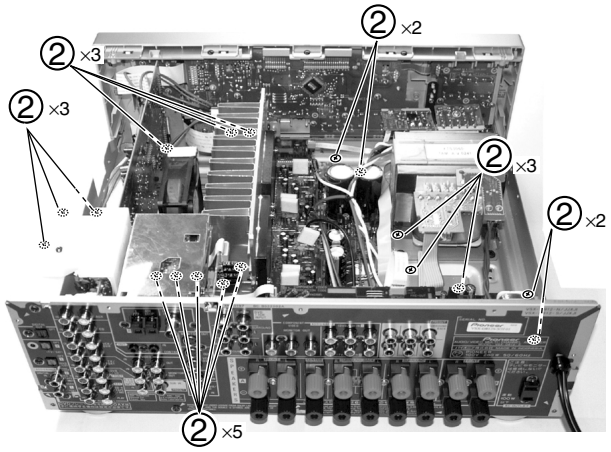
7.1 DIAGNOSIS

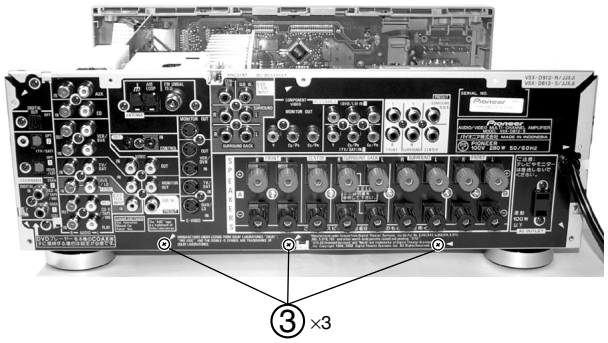
7.1.1 DISASSEMBLY AND DIAGNOSIS

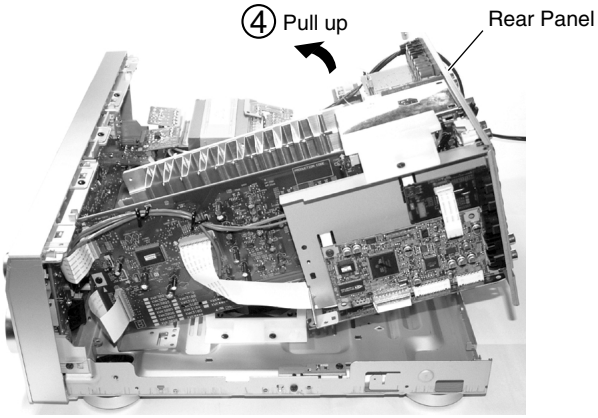
■ Diagnosis

Note : This photograph shows other models.
However, the work method is the same.

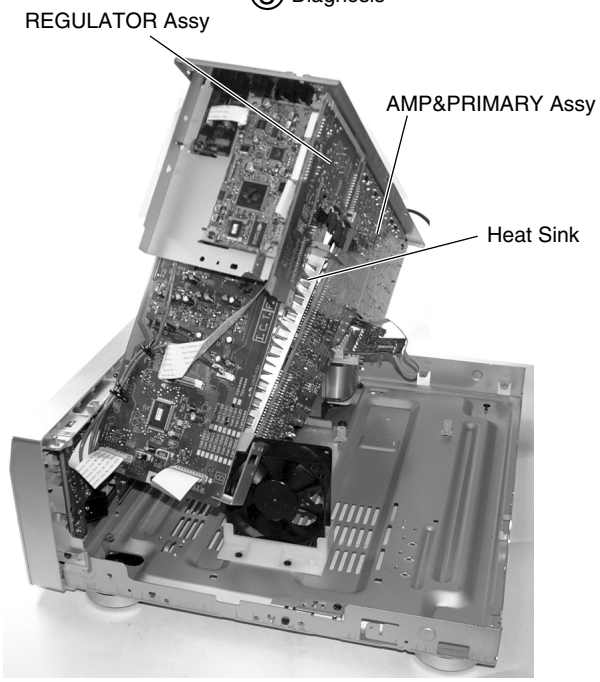
① Remove the top cover (nine screws).





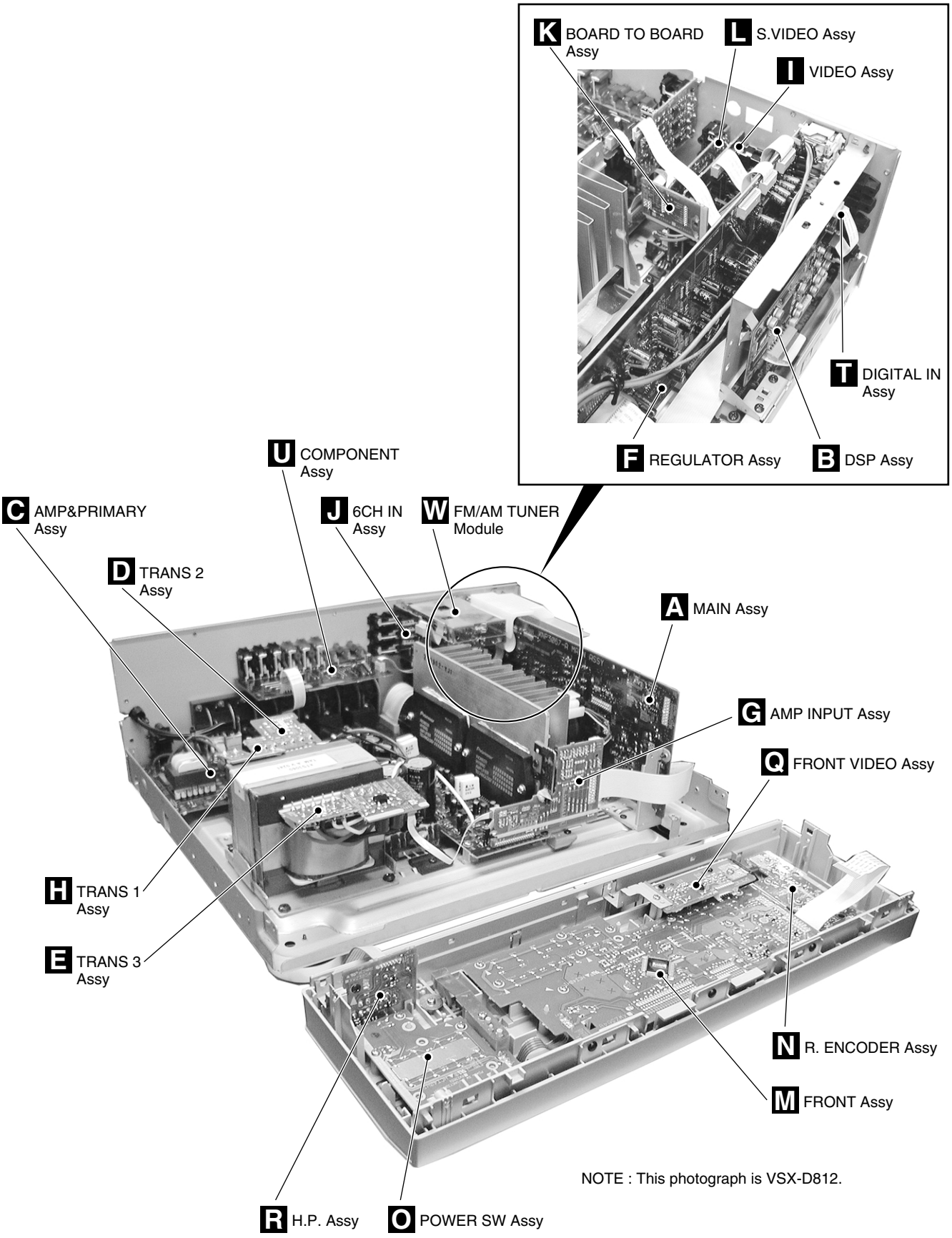


⑤ Diagnosis



Note : The unit does not operate when the screws of Speaker Terminal are taken off from Rear Panel.

7.1.2 PCB LOCATION



NOTE : This photograph is VSX-D812.

7.2 PARTS
7.2.1 IC

- The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

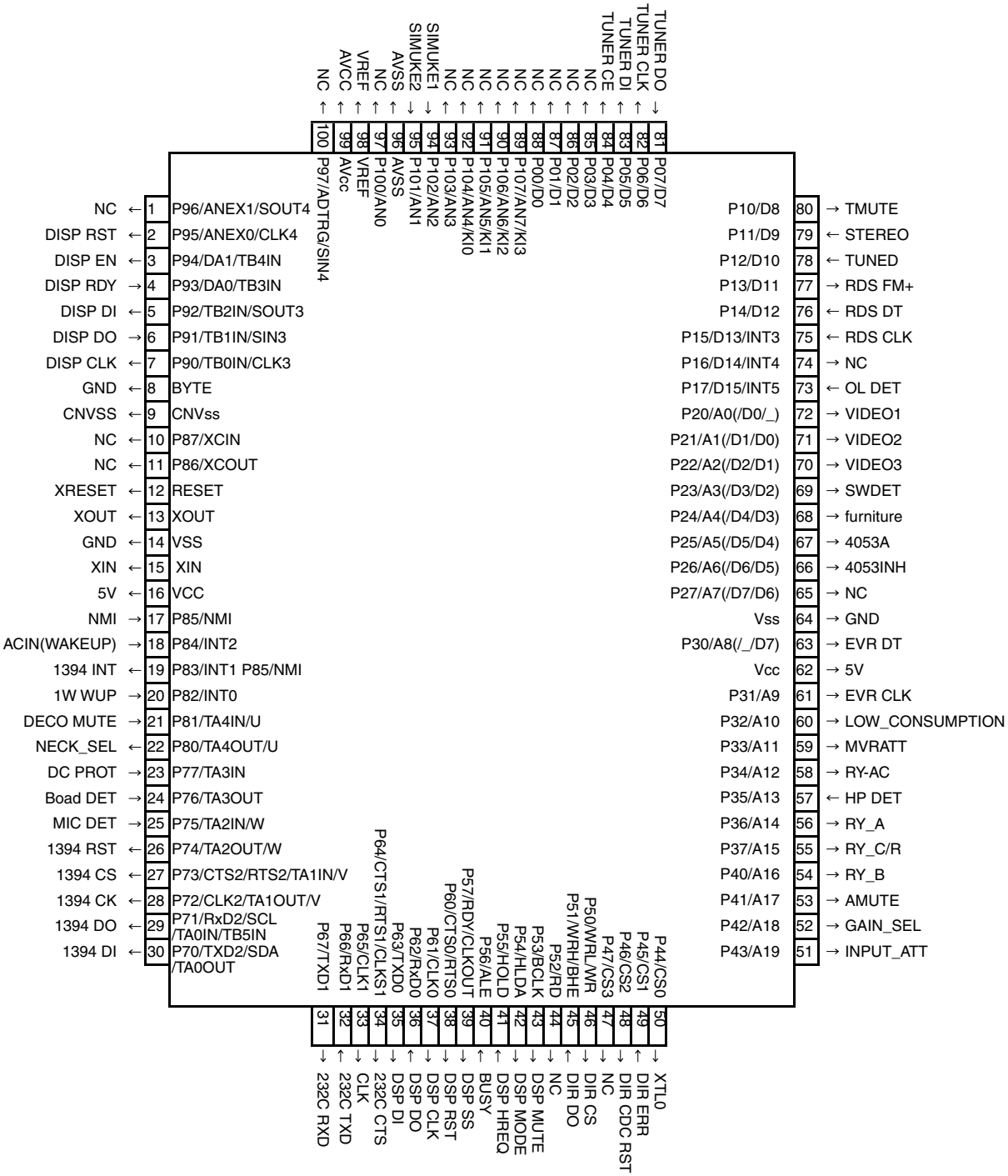
• List of IC

PD5837A, PE5346A, BD3813KS, BD3841FS, NJM2581, NJM2595, AK4529

■ PD5837A (MAIN ASSY : IC9001)

• System Control MCU

■ Pin Arrangement (Top View)



• Pin Function

No.	Port	Pin Name	I/O	Pin Function
1	P96/ANEX1/SOUT4	NC	I/O	
2	P95/ANEX0/CLK4	DISP RST	I/O	Reset signal to display u-com
3	P94/DA1/TB4IN	DISP EN	I/O	Enable signal to display u-com
4	P93/DA0/TB3IN	DISP RDY	I/O	Ready signal from display u-com
5	P92/TB2IN/SOUT3	DISP DI	I/O	Data out to display u-com
6	P91/TB1IN/SIN3	DISP DO	I/O	Data input from display u-com
7	P90/TB0IN/CLK3	DISP CLK	I/O	Clock signal to display u-com
8	BYTE	GND		
9	CNVss	CNVSS		
10	P87/XCIN	NC	I/O	
11	P86/XCOUT	NC	I/O	
12	RESET	XRESET		
13	XOUT	XOUT		
14	VSS	GND		
15	XIN	XIN		
16	VCC	5V		
17	P85/NMI	NM	I	No use
18	P84/INT2	ACIN(WAKEUP)	I/O	AC pulse input
19	P83/INT1 P85/NMI	1394 INT	I/O	No use (Standby for 1394)
20	P82/INT0	1W WUP	I/O	Wake up signal from display u-com
21	P81/TA4IN/U	DECO MUTE	I/O	1st DSP detect port
22	P80/TA4OUT/U	NECK_SEL	I/O	5.1ch, surround mode and A+B Stereo : H / Stereo : L
23	P77/TA3IN	DC PROT	I/O	AMP DC detect
24	P76/TA3OUT	Boad DET	I/O	AMP INPUT ASSY detect, H : detected
25	P75/TA2IN/W	MIC DET	I/O	MIC detect (VSX-D912 only), L : detect
26	P74/TA2OUT/W	1394 RST	I/O	No use (Standby for 1394)
27	P73/CTS2/RTS2/TA1IN/V	1394 CS	I/O	No use (Standby for 1394)
28	P72/CLK2/TA1OUT/V	1394 CK	I/O	No use (Standby for 1394)
29	P71/RxD2/SCL/TA0IN/TB5IN	1394 DO	I/O	No use (Standby for 1394)
30	P70/TXD2/SDA/TA0OUT	1394 DI	I/O	No use (Standby for 1394)
31	P67/TXD1	232C RXD	I/O	For rewriting 232C (Data output)
32	P66/RxD1	232C TXD	I/O	For rewriting 232C (Data input)
33	P65/CLK1	CLK	I/O	It is necessary when writing for JIG
34	P64/CTS1/RTS1/CLKS1	232C CTS	I/O	For rewriting 232C (Admit communication)
35	P63/TXD0	DSP DI	I/O	Data output signal for communication with DSP and DIR
36	P62/RxD0	DSP DO	I/O	Data input signal for communication with DSP
37	P61/CLK0	DSP CLK	I/O	Clock signal for communication with DSP and DIR
38	P60/CTS0/RTS0	DSP RST	I/O	Reset signal for DSP
39	P57/RDY/CLKOUT	DSP SS	I/O	Srobe select signal to DSP
40	P56/ALE	BUSY	I/O	Use it in MCACC
41	P55/HOLD	DSP HREQ	I/O	DSP error detect signal
42	P54/HLDA	DSP MODE	I/O	Mode select of DSP (ROM/RAM)
43	P53/BCLK	DSP MUTE	I/O	DSP ASSY mute
44	P52/RD	NC	I/O	
45	P51/WRH/BHE	DIR DO	I/O	Data input signal for communication with DIR/DAC
46	P50/WRL/WR	DIR CS	I/O	Chip select signal for communication with DIR/DAC
47	P47/CS3	NC	I/O	
48	P46/CS2	DIR CDC RST	I/O	Reset signal for DIR CODEC
49	P45/CS1	DIR ERR	I/O	lock/unlock signal
50	P44/CS0	XTL0	I/O	DIR X'tal change

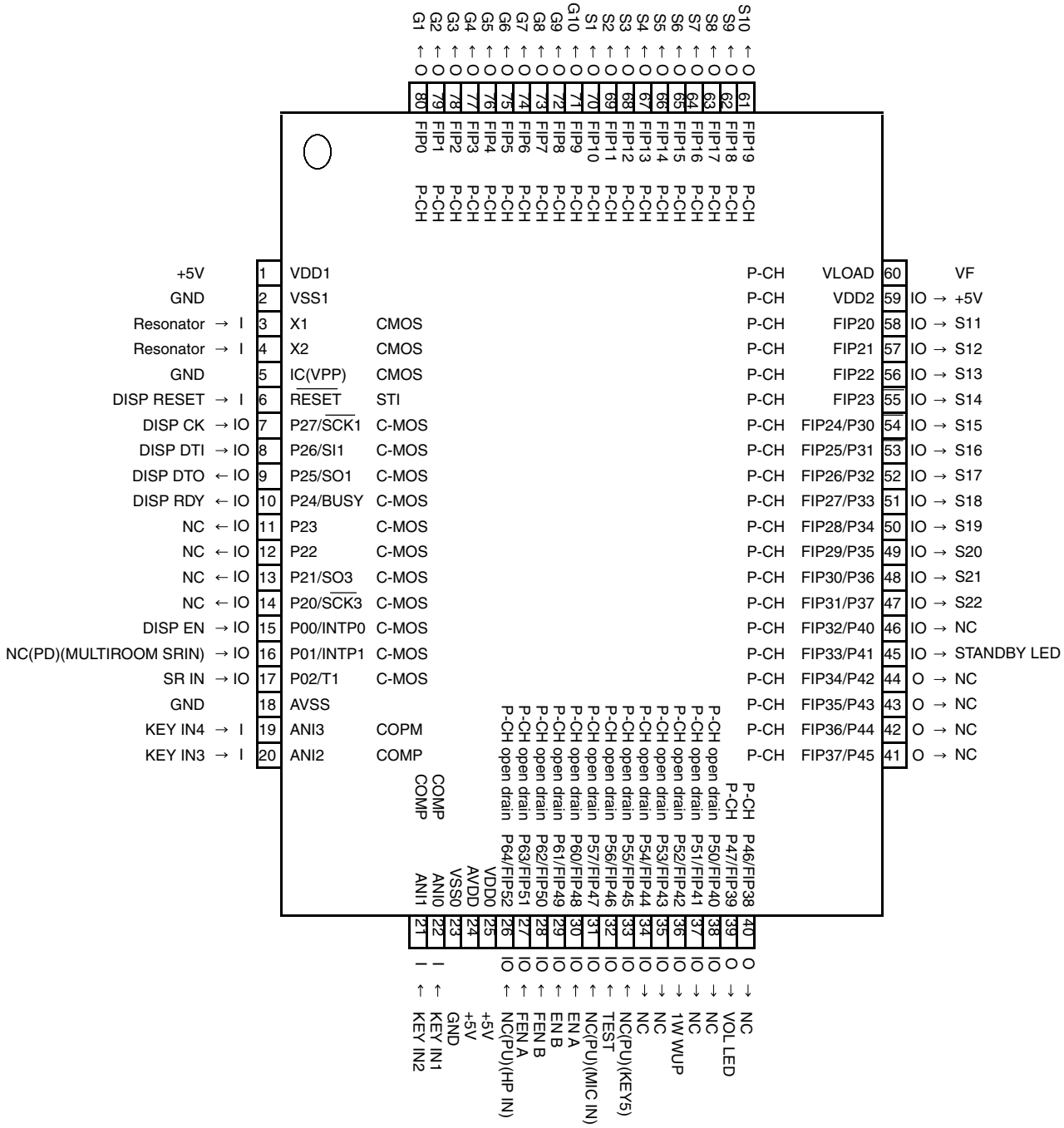
• Pin Function

No.	Port	Pin Name	I/O	Pin Function
51	P43/A19	INPUT_ATT	I/O	Analog input ATT(H : ATT ON)
52	P42/A18	GAIN_SEL	I/O	Gain select (5.1ch and Stereo of analog input : H)
53	P41/A17	AMUTE	I/O	System mute
54	P40/A16	RY_B	I/O	Speaker B relay ON/OFF
55	P37/A15	RY_C/R	I/O	Rear/Center Speaker relay ON/OFF
56	P36/A14	RY_A	I/O	Speaker A relay ON/OFF
57	P35/A13	HP DET	I/O	HP detect, H : detected
58	P34/A12	RY-AC	I/O	AC relay ON/OFF
59	P33/A11	MVRATT	I/O	ATT control of master volume (less than -15dB : L)
60	P32/A10	LOW_CONSUMPTION	I/O	If stop mode, port L, else H
61	P31/A9	EVR CLK	I/O	Clock signal for Function and E-volume
62	Vcc	5V		
63	P30/A8(/_/D7)	EVR DT	I/O	Data signal for Function and E-volume
64	Vss	GND		
65	P27/A7(/D7/D6)	NC	I/O	
66	P26/A6(/D6/D5)	4053INH	I/O	Component terminal control
67	P25/A5(/D5/D4)	4053A	I/O	Component terminal control
68	P24/A4(/D4/D3)	furniture	I/O	Furniture control signal
69	P23/A3(/D3/D2)	SWDET	I/O	SWSP detect
70	P22/A2(/D2/D1)	VIDEO3	I/O	SWSP detect
71	P21/A1(/D1/D0)	VIDEO2	I/O	SWSP detect
72	P20/A0(/D0/_)	VIDEO1	I/O	NJM2296 control (VIDEO input select)
73	P17/D15/INT5	OL DET	I/O	Detect overload of AMP
74	P16/D14/INT4	NC	I/O	
75	P15/D13/INT3	RDS CLK	I/O	Clock input signal for RDS module
76	P14/D12 RDS	DT	I/O	Data input signal for RDS module
77	P13/D11 RDS	FM+	I/O	Power ON/OFF of RDS decoder
78	P12/D10	TUNED	I/O	L : TUNED
79	P11/D9	STEREO	I/O	L :STEREO
80	P10/D8	TMUTE	I/O	Tuner mute
81	P07/D7	TUNER DO	I/O	Data input signal for tuner contorol
82	P06/D6	TUNER CLK	I/O	Clock signal for tuner contorol
83	P05/D5	TUNER DI	I/O	Data output signal for tuner contorol
84	P04/D4	TUNER CE	I/O	Chip select signal for tuner contorol
85	P03/D3	NC	I/O	
86	P02/D2	NC	I/O	
87	P01/D1	NC	I/O	
88	P00/D0	NC	I/O	
89	P107/AN7/KI3	NC	I/O	
90	P106/AN6/KI2	NC	I/O	
91	P105/AN5/KI1	NC	I/O	
92	P104/AN4/KI0	NC	I/O	
93	P103/AN3	NC	I/O	
94	P102/AN2	SIMUKE1	I/O	Input 1 to switch region
95	P101/AN1	SIMUKE2	I/O	Input 2 to switch region
96	AVSS	AVSS		Connect to VSS
97	P100/AN0	NC	I/O	
98	VREF	VREF		Connect to VCC
99	AVcc	AVCC		Connect to VCC
100	P97/ADTRG/SIN4	NC	I/O	

■ PE5346A (FRONT ASSY : IC401)

• System Control MCU

■ Pin Arrangement (Top View)


+5V 1 VDD1
GND 2 VSS1
Resonator → I 3 X1 CMOS
Resonator → I 4 X2 CMOS
GND 5 IC(VPP) CMOS
DISP RESET → I 6 RESET STI
DISP CK → IO 7 P27/SCK1 C-MOS
DISP DTI → IO 8 P26/SI1 C-MOS
DISP DTO ← IO 9 P25/SO1 C-MOS
DISP RDY ← IO 10 P24/BUSY C-MOS
NC ← IO 11 P23 C-MOS
NC ← IO 12 P22 C-MOS
NC ← IO 13 P21/SO3 C-MOS
NC ← IO 14 P20/SCK3 C-MOS
DISP EN → IO 15 P00/INTP0 C-MOS
NC(PD)(MULTIROOM SRIN) → IO 16 P01/INTP1 C-MOS
SR IN → IO 17 P02/T1 C-MOS
GND 18 AVSS
KEY IN4 → I 19 ANI3 COPM
KEY IN3 → I 20 ANI2 COMP
P-CH VLOAD 60 VF
P-CH VDD2 59 IO → +5V
P-CH FIP20 58 IO → S11
P-CH FIP21 57 IO → S12
P-CH FIP22 56 IO → S13
P-CH FIP23 55 IO → S14
P-CH FIP24/P30 54 IO → S15
P-CH FIP25/P31 53 IO → S16
P-CH FIP26/P32 52 IO → S17
P-CH FIP27/P33 51 IO → S18
P-CH FIP28/P34 50 IO → S19
P-CH FIP29/P35 49 IO → S20
P-CH FIP30/P36 48 IO → S21
P-CH FIP31/P37 47 IO → S22
P-CH FIP32/P40 46 IO → NC
P-CH FIP33/P41 45 IO → STANDBY LED
P-CH FIP34/P42 44 O → NC
P-CH FIP35/P43 43 O → NC
P-CH FIP36/P44 42 O → NC
P-CH FIP37/P45 41 O → NC
G1 ↑ O 80 FIP0 P-CH
G2 ↑ O 79 FIP1 P-CH
G3 ↑ O 78 FIP2 P-CH
G4 ↑ O 77 FIP3 P-CH
G5 ↑ O 76 FIP4 P-CH
G6 ↑ O 75 FIP5 P-CH
G7 ↑ O 74 FIP6 P-CH
G8 ↑ O 73 FIP7 P-CH
G9 ↑ O 72 FIP8 P-CH
G10 ↑ O 71 FIP9 P-CH
S1 ↑ O 70 FIP10 P-CH
S2 ↑ O 69 FIP11 P-CH
S3 ↑ O 68 FIP12 P-CH
S4 ↑ O 67 FIP13 P-CH
S5 ↑ O 66 FIP14 P-CH
S6 ↑ O 65 FIP15 P-CH
S7 ↑ O 64 FIP16 P-CH
S8 ↑ O 63 FIP17 P-CH
S9 ↑ O 62 FIP18 P-CH
S10 ↑ O 61 FIP19 P-CH
COMP COMP 21
I ↑ I ANI1 22
VSS0 23
AVDD 24
VDD0 25
IO ↑ P64/FIP52 26
P-CH open drain IO ↑ P63/FIP51 27
P-CH open drain IO ↑ P62/FIP50 28
P-CH open drain IO ↑ P61/FIP49 29
P-CH open drain IO ↑ P60/FIP48 30
P-CH open drain IO ↑ P57/FIP47 31
P-CH open drain IO ↑ P56/FIP46 32
P-CH open drain IO ↑ P55/FIP45 33
P-CH open drain IO ↓ P54/FIP44 34
P-CH open drain IO ↓ P53/FIP43 35
P-CH open drain IO ↓ P52/FIP42 36
P-CH open drain IO ↓ P51/FIP41 37
P-CH open drain IO ↓ P50/FIP40 38
P-CH open drain O ↓ P47/FIP39 39
P-CH O ↓ P46/FIP38 40
+5V
GND
KEY IN1
KEY IN2
+5V
FEN A
FEN B
EN B
EN A
NC(PU)(MIC IN)
TEST
NC(PU)(KEY5)
NC
NC
1W WUP
NC
NC
VOL LED
NC

• Pin Function

No.	Port	Pin Name	I/O	Pin Function
1	VDD1	+5V	-	positive power supply
2	VSS1	GND	-	ground potential
3	X1	Resonator	I	crystal connection for system clock oscillation
4	X2	Resonator	I	crystal connection for system clock oscillation
5	IC(VPP)	GND	-	
6	RESET	DISP RESET	I	receive reset signal from main u-com
7	P27/SCK1	DISP CK	I/O	clock signal from main u-com
8	P26/SI1	DISP DTI	I/O	datain from main u-com
9	P25/SO1	DISP DTO	I/O	data out to main u-com
10	P24/BUSY	DISP RDY	I/O	ready signal from main u-com
11	P23	NC	I/O	
12	P22	NC	I/O	
13	P21/SO3	NC	I/O	
14	P20/SCK3	NC	I/O	
15	P00/INTP0	DISP EN	I/O	enable signal from main u-com
16	P01/INTP1	NC	I/O	
17	P02/T1	SR IN	I/O	remote control signal input from main room
18	AVSS	GND	-	ground potential for A/D converter
19	ANI3	KEY IN4	I	
20	ANI2	KEY IN3	I	
21	ANI1	KEY IN2	I	
22	ANI0	KEY IN1	I	
23	VSS0	GND	-	ground potential for ports
24	AVDD	'+5V	-	analog power voltage input to A/D converter
25	VDD0	'+5V	-	positive power supply to ports
26	P64/FIP52	NC	I/O	
27	P63/FIP51	FEN A	I/O	MULTI JOG(Right)
28	P62/FIP50	FEN B	I/O	MULTI JOG(Left)
29	P61/FIP49	EN B	I/O	VOLUME JOG1(-)
30	P60/FIP48	EN A	I/O	VOLUME JOG1(+)
31	P57/FIP47	NC	I/O	
32	P56/FIP46	TEST	I/O	test mode input for checker
33	P55/FIP45	NC	I/O	
34	P54/FIP44	NC	I/O	
35	P53/FIP43	NC	I/O	
36	P52/FIP42	1W WUP	I/O	output wakeup signal to main u-com
37	P51/FIP41	NC	I/O	
38	P50/FIP40	NC	I/O	
39	P47/FIP39	VOL LED	I/O	LED Output
40	P46/FIP38	NC	I/O	

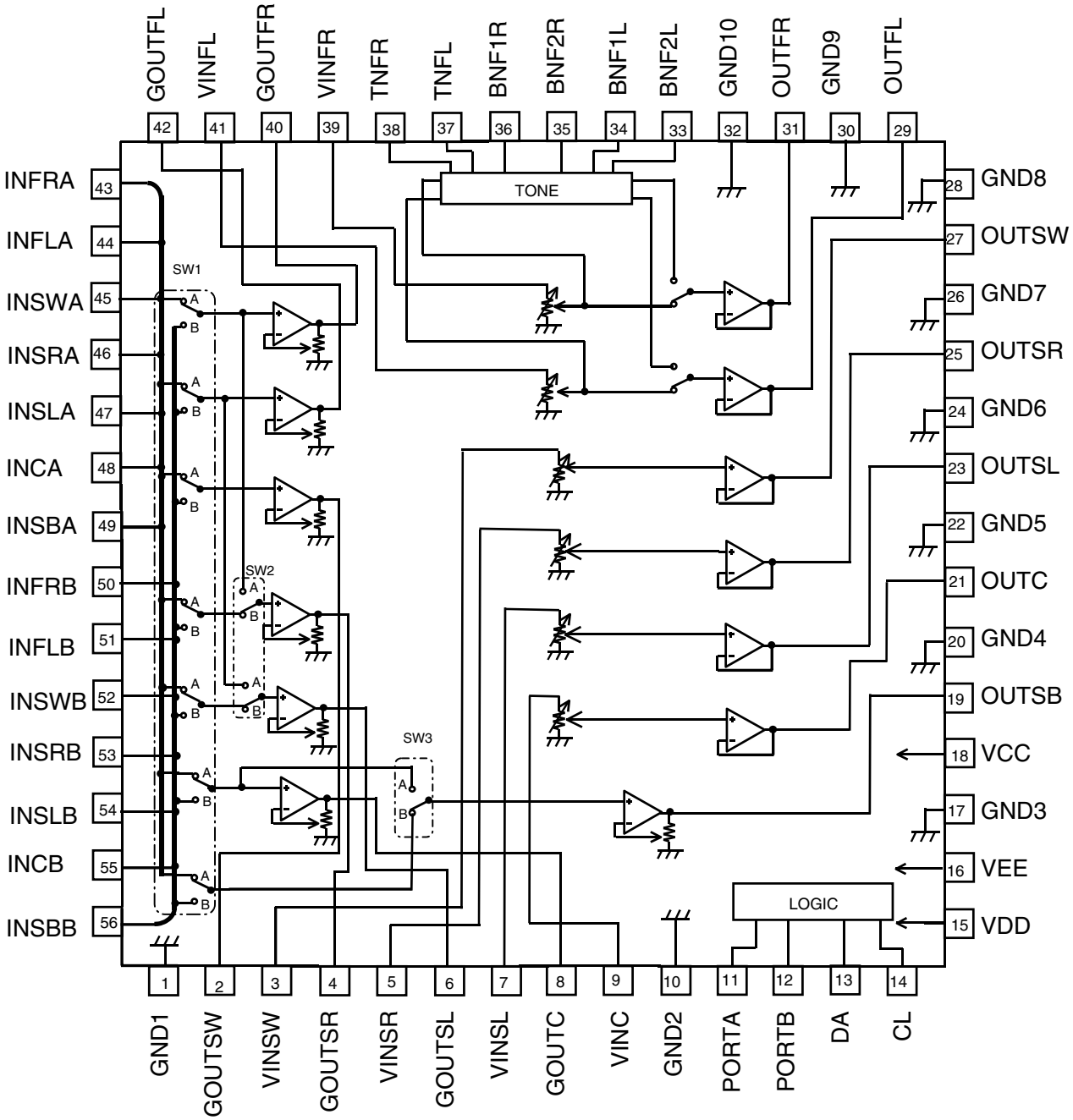
• **Pin Function**

No.	Port	Pin Name	I/O	Pin Function
41	FIP37/P45	NC	I/O	
42	FIP36/P44	NC	/O	
42	FIP35/P43	NC	I/O	
44	FIP34/P42	NC	I/O	
45	FIP33/P41	STANDBY LED	I/O	LED Output
46	FIP32/P40	NC	I/O	
47	FIP31/P37	S22	I/O	Display
48	FIP30/P36	S21	I/O	Display
49	FIP29/P35	S20	I/O	Display
50	FIP28/P34	S19	I/O	Display
51	FIP27/P33	S18	I/O	Display
52	FIP26/P32	S17	I/O	Display
53	FIP25/P31	S16	I/O	Display
54	FIP24/P30	S15	I/O	Display
55	FIP23	S14	O	Display
56	FIP22	S13	O	Display
57	FIP21	S12	O	Display
58	FIP20	S11	O	Display
59	VDD2	'+5V	-	positive power supply to FIP controller.
60	VLOAD	VF	-	pull down resistor connection of FIP controller
61	FIP19	S10	O	Display
62	FIP18	S9	O	Display
63	FIP17	S8	O	Display
64	FIP16	S7	O	Display
65	FIP15	S6	O	Display
66	FIP14	S5	O	Display
67	FIP13	S4	O	Display
68	FIP12	S3	O	Display
69	FIP11	S2	O	Display
70	FIP10	S1	O	Display
71	FIP9	G10	O	Display
72	FIP8	G9	O	Display
73	FIP7	G8	O	Display
74	FIP6	G7	O	Display
75	FIP5	G6	O	Display
76	FIP4	G5	O	Display
77	FIP3	G4	O	Display
78	FIP2	G3	O	Display
79	FIP1	G2	O	Display
80	FIP0	G1	O	Display

■ BD3813KS (MAIN ASSY : IC108)

• 6.1ch Audio Sound Processor

■ Block Diagram



• Description of terminal

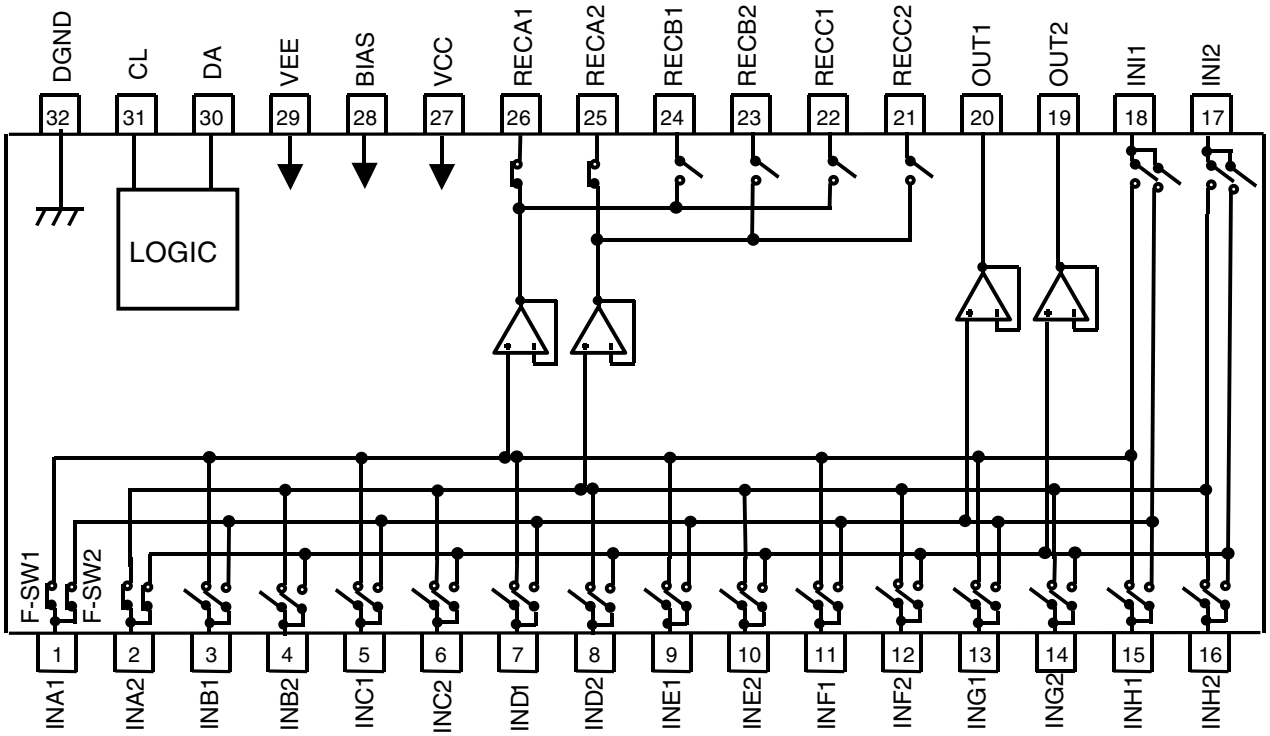
Terminal Number	Terminal Name	Description	Terminal Number	Terminal Name	Description
1	GND1	Ground terminal	14	CL	Serial clock input terminal
2	GOUTSW	Sub woofer input gain output terminal	15	VDD	Power supply terminal for port
3	VINSW	Subwoofer volume input terminal	16	VEE	(-)Power supply terminal
4	GOUTSR	Surround Rch input gain output terminal	17	GND3	Ground terminal
5	VINSR	Surround Rch volume input terminal	18	VCC	(+)Power supply terminal
6	GOUTSL	Surround Lch input gain output terminal	19	OUTSB	Surround backoutput terminal
7	VINSL	Surround Lch volume input terminal	20	GND4	Ground terminal
8	GOUTC	Center speakerinput gain output terminal	21	OUTC	Center speaker output terminal
9	VINC	Center speaker volume input terminal	22	GND5	Ground terminal
10	GND2	Ground terminal	23	OUTSL	Surround Lch output terminal
11	PORTA	Output terminal for port	24	GND6	Ground terminal
12	IPORTB	Output terminal for port	25	OUTSR	Surround Rch output terminal
13	DA	Serial data and latch input terminal	26	GND7	Ground terminal

Terminal Number	Terminal Name	Description	Terminal Number	Terminal Name	Description
27	OUTSW	Sub woofer output terminal	42	GOUTFL	Lch input gain output terminal
28	GND8	Ground terminal	43	INFRA	Rch DVD inputterminal
29	OUTFL	Lch output terminal	44	INFLA	Lch DVD input terminal
30	GND9	Ground terminal	45	INSWA	SWch DVD input terminal
31	OUTFR	Rch output terminal	46	INSRA	SRch DVD input terminal
32	GND10	Ground terminal	47	INSLA	SLch DVD input terminal
33	BNF2L	Lch bass filter terminal 2	48	INCA	Cch DVD input terminal
34	BNF1L	Lch bass filter terminal 1	49	INSBA	SBch DVD input terminal
35	BNF2R	Rch bass filter terminal 2	50	INFRB	Rch DSP input terminal
36	BNF1R	Lch bass filter terminal 1	51	INFLB	Lch DSP input terminal
37	TNFL	Lch treble filter terminal	52	INSWB	SWch DSP input terminal
38	TNFR	Rch treble filter terminal	53	INSRB	SRch DSP input terminal
39	VINFR	Rch volume Input terminal	54	INSLB	SLch DSP input terminal
40	GOUTFR	Rch input gain output terminal	55	INCB	Cch DSP input terminal
41	VINFL	Lch volume Input terminal	56	INSBB	SBch DSP input terminal

■ BD3841FS (MAIN ASSY : IC101)

• 9ch Function Switch

■ Block Diagram



* F-SW1 : INPUT FUNCTION1
F-SW2 : INPUT FUNCTION2

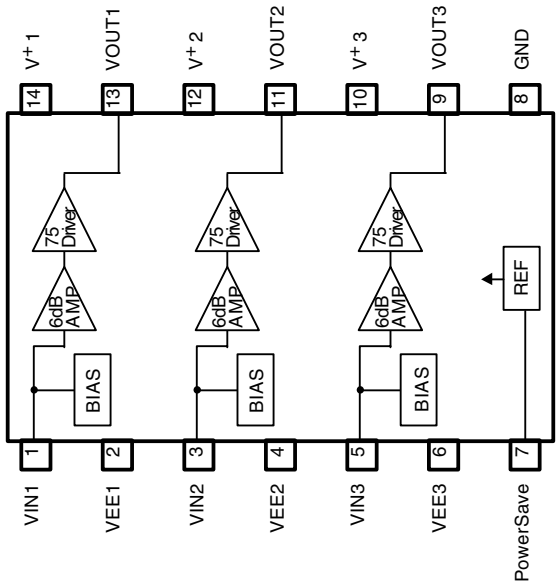
• Description of terminal

Terminal Number	Terminal Name	Description	Terminal Number	Terminal Name	Description
1	INA1	A 1ch input terminal	17	INI2	I 2ch input terminal
2	INA2	A 2ch input terminal	18	INI1	I 1ch input terminal
3	INB1	B 1ch input terminal	19	OUT2	2ch output terminal
4	INB2	B 2ch input terminal	20	OUT1	1ch output terminal
5	INC1	C 1ch input terminal	21	RECC2	C 2ch REC output terminal
6	INC2	C 2ch input terminal	22	RECC1	C 1ch REC output terminal
7	IND1	D 1ch input terminal	23	RECB2	B 2ch REC output terminal
8	IND2	D 2ch input terminal	24	RECB1	B 1ch REC output terminal
9	INE1	E1ch input terminal	25	RECA2	A 2ch REC output terminal
10	INE2	E 2ch input terminal	26	RECA1	A 1ch REC output terminal
11	INF1	F 1ch input terminal	27	VCC	(+)Power supply terminal
12	INF2	F 2ch input terminal	28	BIAS	Bias input terminal
13	ING1	G1ch input terminal	29	VEE	(-)Power supply terminal
14	ING2	G2ch input terminal	30	DA	Serial date anlatch input terminal
15	INH1	H 1ch input terminal	31	CL	Serial clock input terminal
16	INH2	H 2ch input terminal	32	DGND	Digital ground terminal

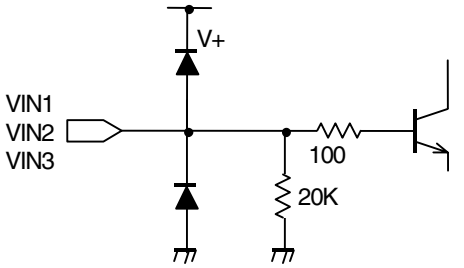
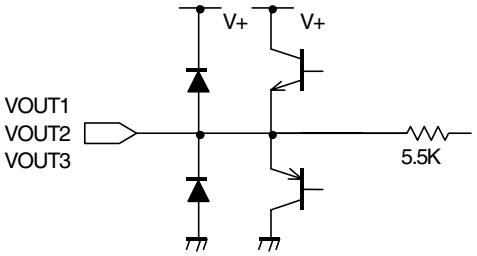
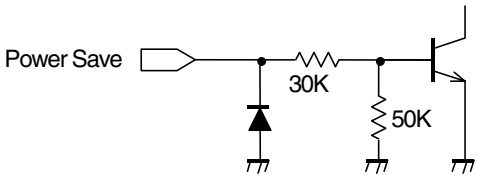
■ NJM2581 (COMPONENT ASSY : IC552)

• DUAL SUPPLY WIDE BAND 3ch VIDEO AMPLIFIER

■ Block Diagram



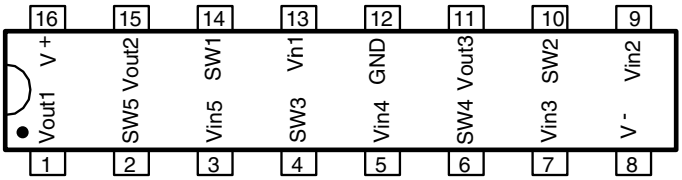
■ Equivalent Circuit

PIN No.	PIN NAME	FUNCTION	INSIDE EQUIVALENT CIRCUIT
1 3 5	VIN1 VIN2 VIN3	Input	
13 11 9	VOUT1 VOUT2 VOUT3	Output	
7	Power Save	Power Save	
14 12 10	V+1 V+2 V+3	V+	———
2 4 6	VEE1 VEE2 VEE3	V-	———
8	GND	GND	———

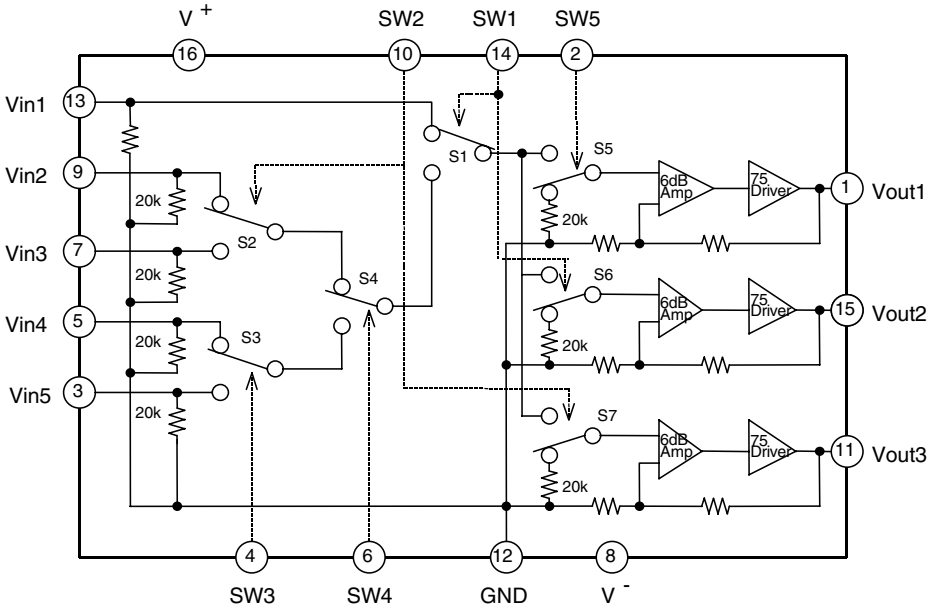
■ NJM2595 (VIDEO ASSY : IC301) (S. VIDEO ASSY : IC351, IC352)

• 5 input 3 output video SW for AV

■ Pin Arrangement (Top View)



■ Block Diagram



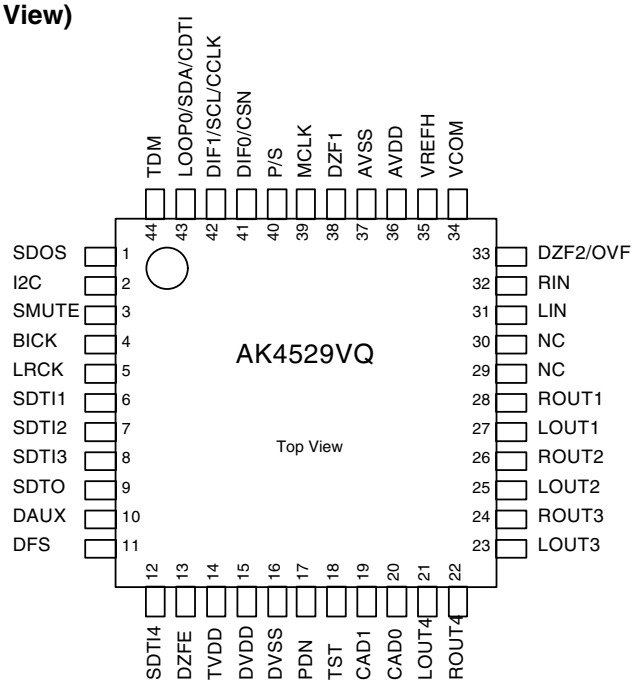
■ SW list for input and output (L=VCL,H=VCH,X=LorH)

SW1	SW2	SW3	SW4	SW5	Vout1	Vout2	Vout3
L	H	X	X	H	Vin1	MUTE	Vin1
	L			H	Vin1	MUTE	MUTE
	H			L	MUTE	MUTE	Vin1
H	L	X	L	H	Vin2	Vin2	MUTE
				L	MUTE	Vin2	MUTE
H	H	X	L	H	Vin3	Vin3	Vin3
				L	MUTE	Vin3	Vin3
H	H	L	H	H	Vin4	Vin4	Vin4
	H			L	MUTE	Vin4	Vin4
	L			H	Vin4	Vin4	MUTE
	L			L	MUTE	Vin4	MUTE
H	H	H	H	H	Vin5	Vin5	Vin5
	H			L	MUTE	Vin5	Vin5
	L			H	Vin5	Vin5	MUTE
	L			L	MUTE	Vin5	MUTE
L	L	X	X	L	MUTE	MUTE	MUTE

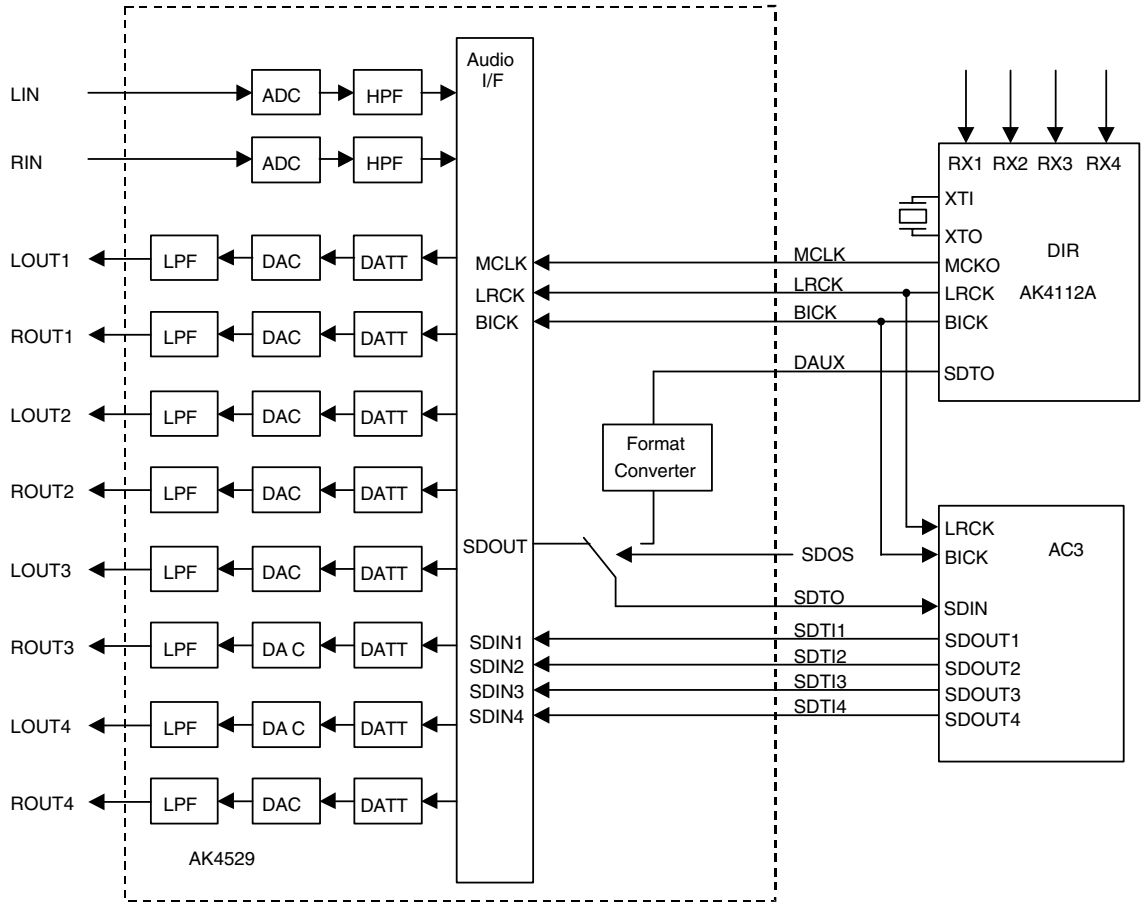
■ AK4529VQ (DSP ASSY : IC8401)

• High Performance Multi-channel Audio CODEC

■ Pin Arrangement (Top View)



■ Block Diagram



Block Diagram (DIR and AC-3 DSP are external parts)

• Pin Function

No.	Pin Name	I/O	Function
1	SDOS	I	SDTO Source Select Pin (Note 1) "L" : Internal ADC output, "H" : DAUX input SDOS pin should be set to "L" when TDM= "1".
2	I2C	I	Control Mode Select Pin "L" : 3-wire Serial, "H" : I ^{2}C Bus
3	SMUTE	I	Soft Mute Pin (Note 1) When this pin goes to "H", soft mute cycle is initialized. When returning to "L", the output mute releases.
4	BICK	I	Audio Serial Data Clock Pin
5	LRCK	I	Input Channel Clock Pin
6	SDTI1	I	DAC1 Audio Serial Data Input Pin
7	SDTI2	I	DAC2 Audio Serial Data Input Pin
8	SDTI3	I	DAC3 Audio Serial Data Input Pin
9	SDTO	O	Audio Serial Data Output Pin
10	DAUX	I	AUX Audio Serial Data Input Pin
11	DFS	I	Double Speed Sampling Mode Pin (Note 1) "L" : Normal Speed, "H" : Double Speed
12	SDTI4	I	DAC4 Audio Serial Data Input Pin
13	DZFE	I	Zero Input Detect Enable Pin "L" : mode 7 (disable) at parallel mode, zero detect mode is selectable by DZFM3-0 bits at serial mode "H" : mode 0 (DZF1 is AND of all eight channels)
14	TVDD	-	Output Buffer Power Supply Pin, 2.7V~5.5V
15	DVDD	-	Digital Power Supply Pin, 4.5V~5.5V
16	DVSS	-	Digital Ground Pin, 0V
17	PDN	I	Power-Down & Reset Pin When "L", the AK4529 is powered-down and the control registers are reset to default state. If the state of P/S or CAD0-1 changes, then the AK4529 must be reset by PDN.
18	TST	I	Test Pin This pin should be connected to DVSS.
19	CAD1	I	Chip Address 1 Pin
20	CAD0	I	Chip Address 0 Pin
21	LOUT4	O	DAC4 Lch Analog Output Pin
22	ROUT4	O	DAC4 Rch Analog Output Pin

• Pin Function

No.	Pin Name	I/O	Function
23	LOUT3	O	DAC3 Lch Analog Output Pin
24	ROUT3	O	DAC3 Rch Analog Output Pin
25	LOUT2	O	DAC2 Lch Analog Output Pin
26	ROUT2	O	DAC2 Rch Analog Output Pin
27	LOUT1	O	DAC1 Lch Analog Output Pin
28	ROUT1	O	DAC1 Rch Analog Output Pin
29	NC	-	No Connect No internal bonding.
30	NC	-	No Connect No internal bonding.
31	LIN	I	Lch Analog Input Pin
32	RIN	I	Rch Analog Input Pin
33	DZF2	O	Zero Input Detect 2 Pin (Note 2) When the input data of the group 1 follow total 8192 LRCK cycles with "0" input data, this pin goes to "H".
	OVF	O	Analog Input Overflow Detect Pin (Note 3) This pin goes to "H" if the analog input of Lch or Rch is overflows.
34	VCOM	O	Common Voltage Output Pin, AVDD/2 Large external capacitor around 2.2µF is used to reduce power-supply noise.
35	VREFH	I	Positive Voltage Reference Input Pin, AVDD
36	AVDD	-	Analog Power Supply Pin, 4.5V~5.5V
37	AVSS	-	Analog Ground Pin, 0V
38	DZF1	O	Zero Input Detect 1 Pin (Note 2) When the input data of the group 1 follow total 8192 LRCK cycles with "0" input data, this pin goes to "H".
39	MCLK	I	Master Clock Input Pin
40	P/S	I	Parallel/Serial Select Pin "L" : Serial control mode, "H" :Parallel control mode
41	DIF0	I	Audio Data Interface Format 0 Pin in parallel control mode
	CSN	I	Chip Select Pin in 3-wire serial control mode This pin should be connected toDVDD at I ^{2} C bus control mode
42	DIF1	I	Audio Data Interface Format 1 Pin in parallel control mode
	SCL/CCLK	I	Control Data Clock Pin in serial control mode I2C= "L" : CCLK (3-wire Serial), I2C = "H" : SCL (I ^{2} C Bus)
43	LOOP0	I	Loopback Mode 0 Pin in parallel control mode Enables digital loop-back from ADC to 4 DACs.
	SDA/CDTI	I/O	Control Data Input Pin in serial control mode I2C= "L" : CDTI (3-wire Serial), I2C = "H" : SDA (I ^{2} C Bus)
44	TDM	I	TDM I/F Format Mode Pin (Note 1) "L" : Normal format, "H" :TDM format

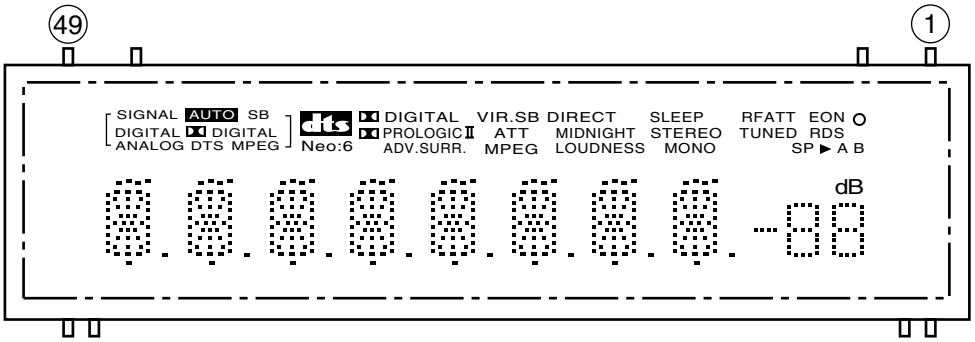
Notes: 1. SDOS, SMUTE, DFS, and TDM pins are ORed with register data if P/S = "L".
2. The group 1 and 2 can be selected by DZFM3-0 bits if P/S = "L" and DZFE = "L".
3. This pin becomes OVF pin if OVFE bit is set to "1" at serial control mode.
4. All input pins should not be left floating.

7.2.2 DISPLAY

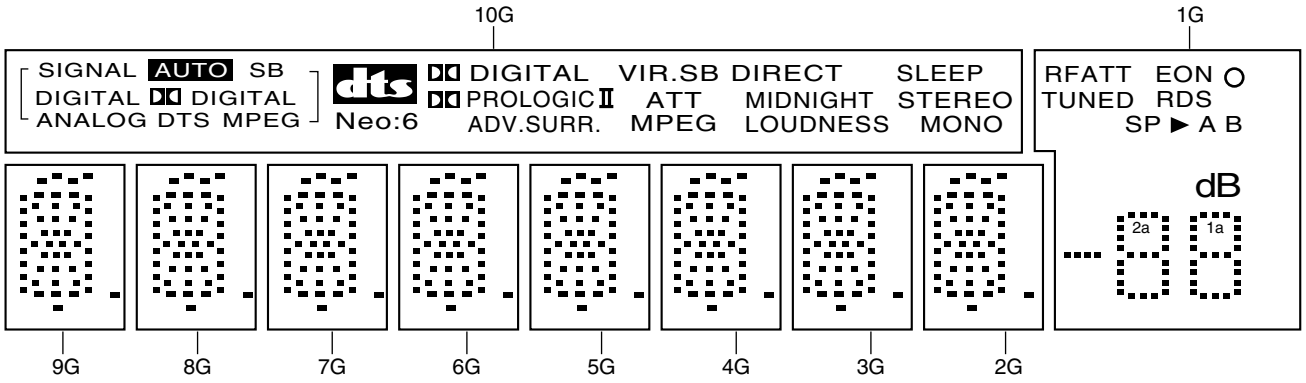
■ XAV3018 (FRONT ASSY : V401)

• FL DISPLAY

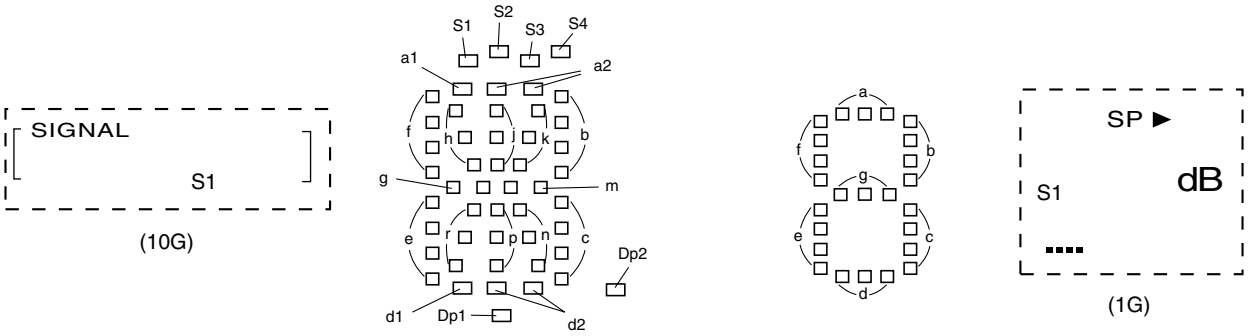
• Pin Assignment



• Grid Assignment



• Segment Designation



• Pin Connection

Pin No.	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25
Connection	F2	F2	NP	NP	P22	P21	P20	P19	P18	P17	P16	P15	P14	P13	P12	P11	P10	P9	P8	P7	P6	P5	P4	P3	P2
Pin No.	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	
Connection	P1	NX	NX	NX	NX	NX	NX	NX	NX	NX	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G	NP	NP	F1	F1	

NOTE 1) F1, F2..... Filament
2) NP..... No pin
3) NX..... No extend pin
4) DL..... Datum Line
5) 1G to 10G..... Grid
6) Field of vision is a minimum of 21.8° from the lower side.

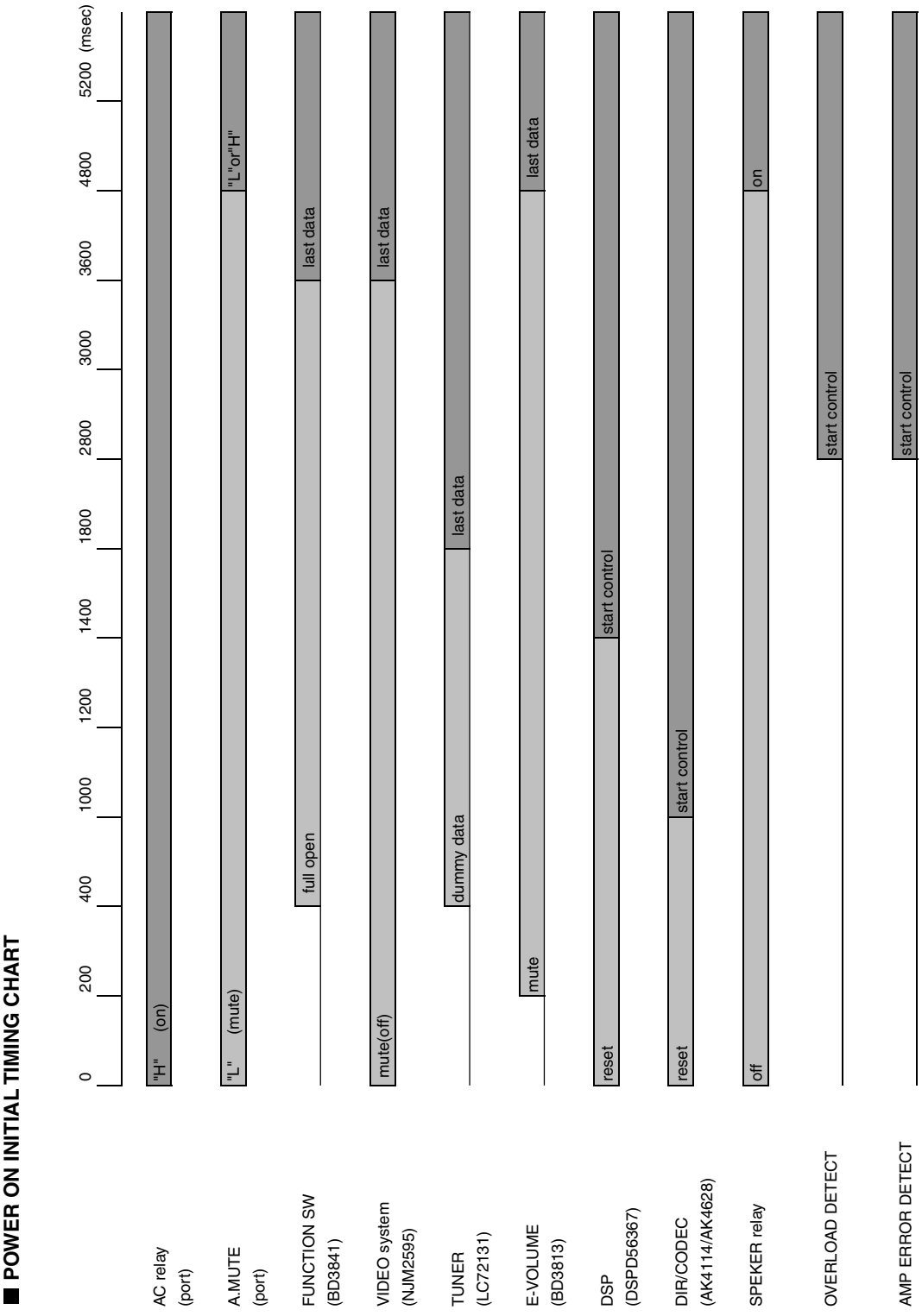
• Anode Connection

	10G	9G-2G	1G
P1	S1	a1	RFATT
P2	AUTO	a2	EON
P3	SB	h	○
P4	DIGITAL	j	TUNED
P5	ANALOG	k	RDS
P6	DIGITAL (L)	b	S1
P7	DTS	f	A
P8	MPEG	m	B
P9	dts	g	1a
P10	MPEG	c	1b
P11	DIGITAL (R)	e	1f
P12	PROLOGIC Π	r	1g
P13	Neo:6	p	1c
P14	VIR.SB	n	1e
P15	ADV.SURR.	d1	1d
P16	ATT	d2	2a
P17	DIRECT		2b
P18	MIDNIGHT		2f
P19	LOUDNESS	S1	2g
P20	SLEEP	S4	2c
P21	STEREO	S2	2e
P22	MONO	S3	2d

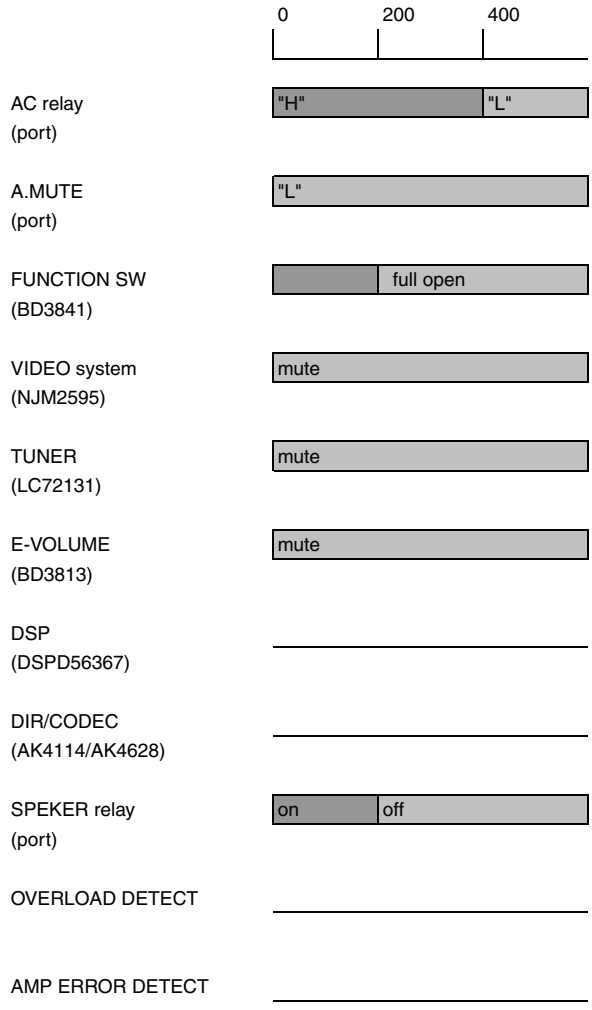
7.3 EXPLANATION

7.3.1 POWER ON AND OFF INITIAL TIMING CHART

■ **POWER ON INITIAL TIMING CHART**



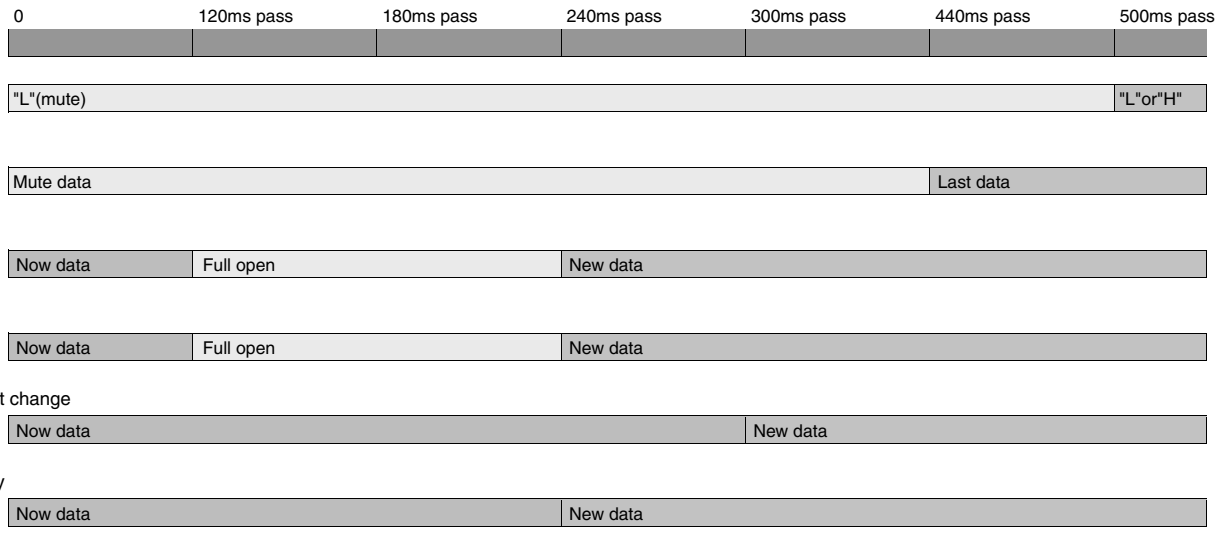
■ POWER OFF INITIAL TIMING CHART



7.3.2 IC DATA TRANSMISSION TIMING CHART

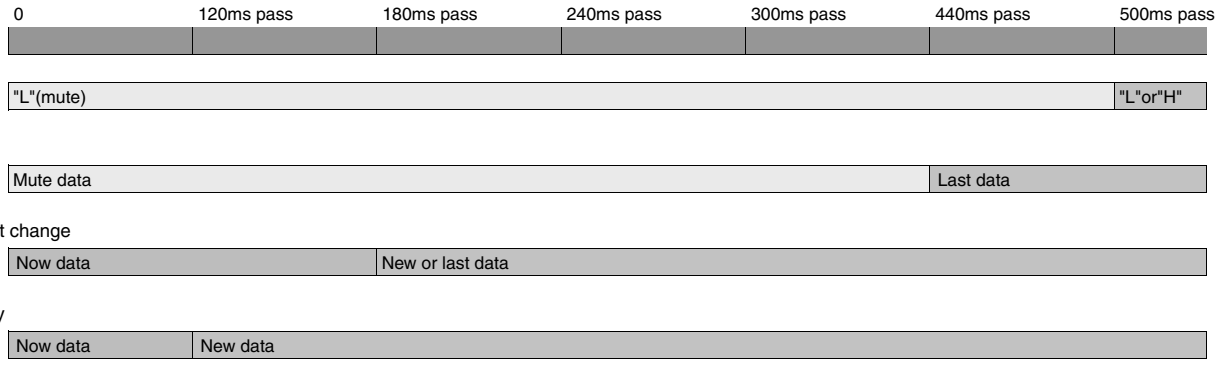
■ IC data transmission timing chart

1.When function chage



condition of mute cancel (system mute & E-volume mute)
1) when tuner mute during Tuner function
2) when communicate to DSP
3) when initial processing
4) when detect trouble of AMP DC
5) when detect overload of AMP
6) when Power off
7) when muting by key input

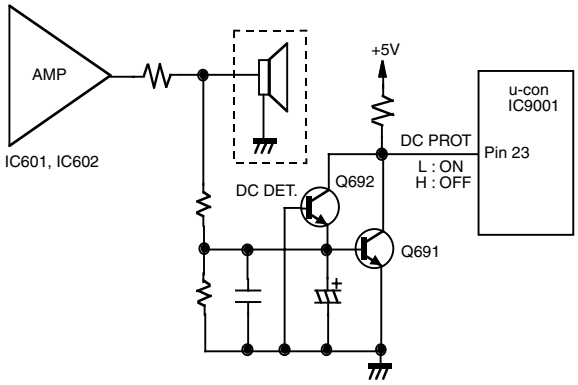
2.When except function chage



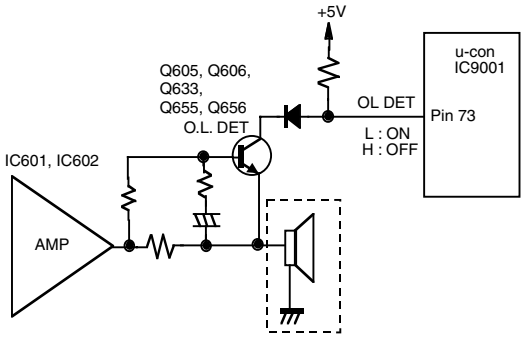
condition of mute cancel (system mute & E-volume mute)
1) when tuner mute during Tuner function
2) when communicate to DSP
3) when initial processing
4) when detect trouble of AMP DC
5) when detect overload of AMP
6) when Power off
7) when muting by key input

7.3.3 DETECTION CIRCUIT

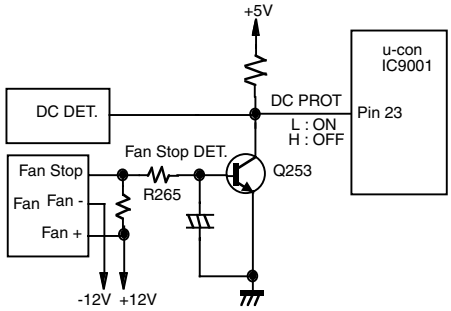
1.DC Detection Circuit Diagram:



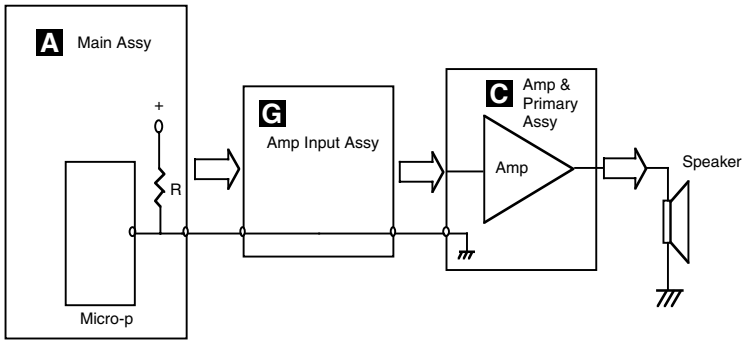
2. Overload Detection Circuit Diagram:



3. Fan Stop Prottection Circuit Diagram:



4. PCB Board Protection Circuit Diagram



7.3.4 AMPLIFIER SYSTEM PROTECTION OPERATION SPECIFICATION

1. DC-abnormality detection

In the case of simultaneous detection with the overload protection circuit,
DC-abnormality detection is performed preferentially to overload detection.

When a DC abnormality is detected, A.MUTE* is turned on, speaker relay is turned off, then "AMP_ERR" flashes on the display.

*A.MUTE : Audio mute command

↓

The abnormality continues for 3 seconds.

↓ Continues.

The power is shut off.

↓

The power key is disabled and Standby LED blinks.

↓ Recovery

The program restarts.

But be switched on with the following methods.
① TESTMODE ON (A55F+A55F)
② When power off, push FRONT ENTER key + ADVANCED SURROUND key continuously 2sec.
(②: When a DC abnormality is detected and the power is shut off.)

2. Overload detection

When an overload is detected, A.MUTE* is turned on, speaker relay is turned off, then "OVERLOAD" flashes on the display.

↓

The abnormality continues for 3 seconds.

↓ Continues.

The power is shut off.

↓ Recovery

The power is shut off even if the unit recovers.

3. Boad detection

In the case of simultaneous detection with the overload protection circuit,
Board detection is performed preferentially to DC-abnormality detection and Overload detection.

When an boad erreo is detected, A.MUTE* is turned on, speaker relay is turned off, then "BOAD ERR" flashes on the display.

↓

The abnormality continues for 3 seconds.

↓ Continues.

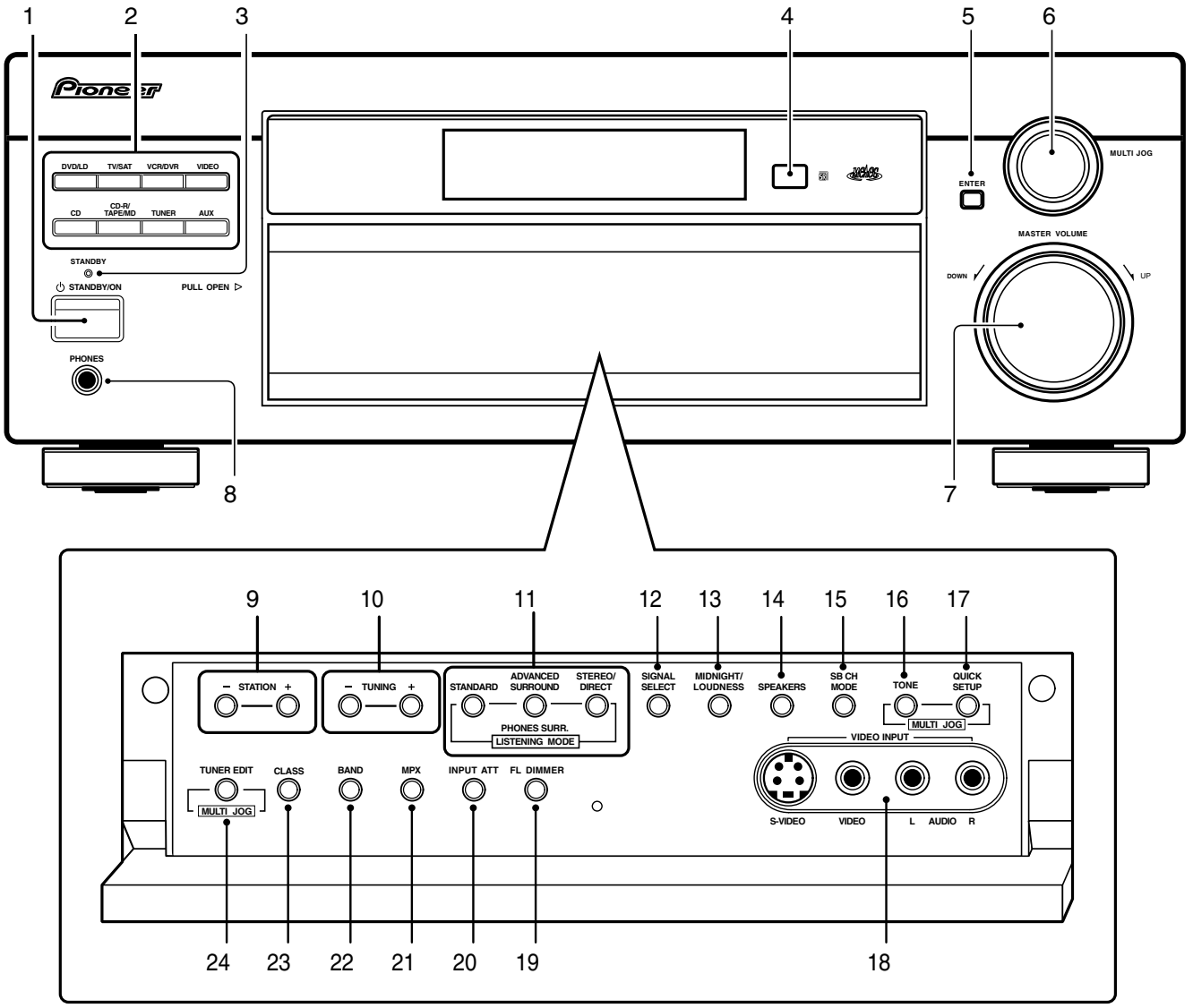
The power is shut off.

↓ Recovery

The power is shut off even if the unit recovers.

8. PANEL FACILITIES

Front panel



1 ⏻ STANDBY/ON
Switches the receiver between on and standby.

2 Input select buttons
Press to select an input source.

3 STANDBY indicator
Lights when the receiver is in standby mode.

4 Remote sensor
Receives the signals from the remote control.

5 ENTER

6 MULTI JOG dial
The MULTI JOG dial performs a number of tasks. Use it to select options after pressing TONE, QUICK SETUP or TUNER EDIT.

7 MASTER VOLUME

8 PHONES jack
Use to connect headphones. When the headphones are connected, there is no sound output from the speakers.

9 STATION +/– buttons
Selects station presets when using the tuner.

10 TUNING +/– buttons
Selects the frequency when using the tuner.

11 LISTENING MODE buttons

STANDARD
Press for Standard decoding and to switch between the various Pro Logic II and Neo:6 options.

ADVANCED SURROUND
Use to switch between the various surround modes.

STEREO/DIRECT
Switches between direct and stereo playback. Direct playback bypasses the tone controls and channel levels for the most accurate reproduction of a source.

12 SIGNAL SELECT
Use to select an input signal.

13 MIDNIGHT/LOUDNESS
Use Midnight when listening to movie soundtracks at low volume. Use Loudness to boost the bass and treble at low volume.

14 SPEAKERS
Use to cycle through the speaker system:
A → B → A+B

15 SB CH MODE
Selects the surround back channel mode and the Virtual Surround Back (VSB) mode.

16 TONE
Press this button to access the bass and treble controls, which you can then adjust with the MULTI JOG dial.

17 QUICK SETUP
See Using the Quick Setup.

18 VIDEO INPUT
See Connecting to the front panel video terminal.

19 FL DIMMER
Use this button to make the fluorescent display (FL) dimmer or brighter.

20 INPUT ATT
Use to attenuate (lower) the level of an analog input signal to prevent distortion.

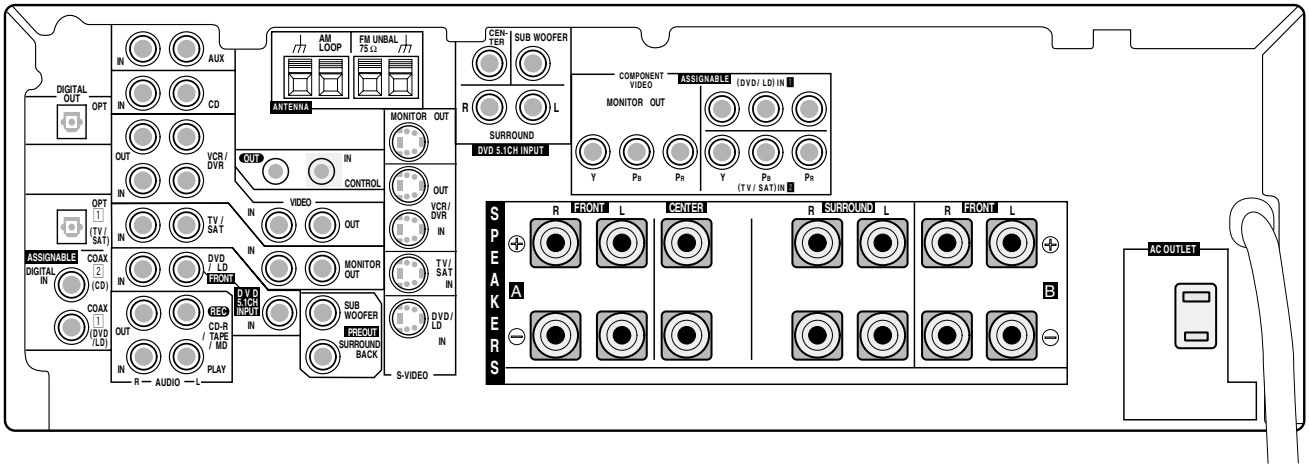
21 MPX
Press to receive a radio broadcast in mono.

22 BAND
Switches between AM and FM radio bands.

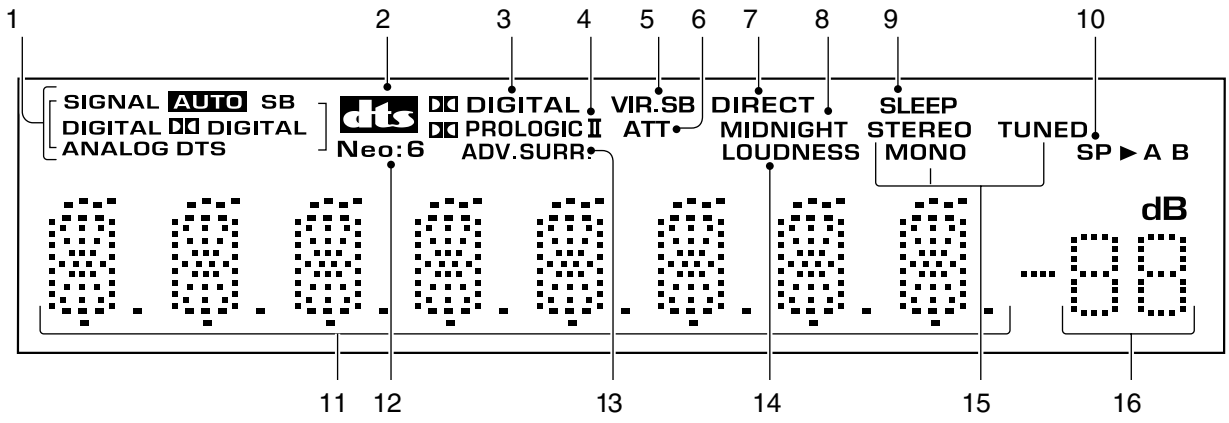
23 CLASS
Switches between the three banks (classes) of station presets.

24 TUNER EDIT
Press to memorize and name a station for recall.

Rear panel



Display



1 SIGNAL SELECT indicators
Lights to indicate the type of input signal assigned for the current component:

AUTO
Lights when AUTO signal select is on.

SB
Depending on the source, this lights when a signal with surround back channel encoding is detected.

DIGITAL
Lights when a digital audio signal is detected.

DIGITAL
Lights when a Dolby Digital encoded signal is detected.

ANALOG
Lights when an analog signal is detected.

DTS
Lights when a source with DTS encoded audio signals is detected.

2 DTS
When the STANDARD mode of the receiver is on, this lights to indicate decoding of a DTS signal.

3 DIGITAL
When the STANDARD mode of the receiver is on, this lights to indicate decoding of a Dolby Digital signal.

4 PRO LOGIC II
When the (STANDARD) Pro Logic II mode of the receiver is on, this lights to indicate Pro Logic II decoding.

5 VIR.SB
Lights during Virtual surround back processing.

6 ATT
Lights when INPUT ATT is used to attenuate (reduce) the level of the analog input signal.

7 DIRECT
Lights when source direct playback is in use. Direct playback bypasses the tone controls and channel levels for the most accurate reproduction of a source.

8 MIDNIGHT
Lights during Midnight listening.

9 SLEEP
Lights when the receiver is in sleep mode.

10 Speaker indicator
Shows the speaker system currently in use.

11 Character display

12 Neo:6
When the (STANDARD) NEO:6 mode of the receiver is on, this lights to indicate NEO:6 processing.

13 ADV.SURR. (Advanced Surround)
Lights when one of the Advanced Surround modes has been selected.

14 LOUDNESS
Lights when LOUDNESS has been selected.

15 TUNER indicators

STEREO
Lights when a stereo FM broadcast is being received in auto stereo mode.

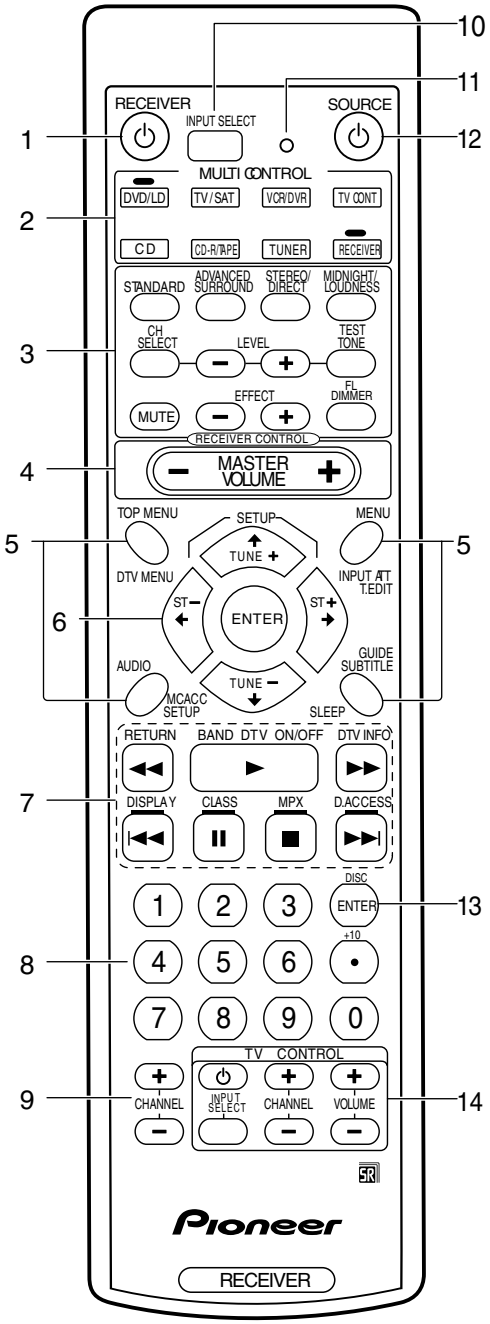
MONO
Lights when the mono mode is set using the MPX button.

TUNED
Lights when a broadcast is being received.

16 Master volume level
Shows the overall volume level. ---dB indicates the minimum level, and - 0 dB indicates the maximum level.

Depending on your level settings for each channel, the maximum volume can range between –10 dB and –0 dB.

Remote control



1 RECEIVER ⏻

This switches between standby and on for this receiver.

2 MULTI CONTROL buttons

Press to select control of other components (see Controlling the rest of your system on).

RECEIVER
Switches the remote to control the receiver (used to select the features such as SLEEP, MCACC SETUP, etc). Also use this button to set up surround sound.

3 RECEIVER CONTROL buttons

STANDARD
Press for Standard decoding and to switch between the various Pro Logic II and Neo:6 options.

ADVANCED SURROUND
Use to switch between the various surround modes.

STEREO/DIRECT
Switches between direct and stereo playback. Direct playback bypasses the tone controls and channel levels for the most accurate reproduction of a source.

MIDNIGHT/LOUDNESS
Switches to Midnight or Loudness listening.

CH SELECT
Selects a speaker when setting up the surround sound of the receiver.

LEVEL +/–
Adjusts the levels of the surround sound of the receiver.

TEST TONE
Sounds the test tone when setting up the surround sound of the receiver.

MUTE
Mutes the sound (or restores the sound if it has been muted).

EFFECT +/–
Adds or subtracts the amount of effect with different advanced surround modes.

FL DIMMER
Dims or brightens the display.

4 MASTER VOLUME +/–
Use to set the listening volume.

5 Receiver and component control buttons (Press the corresponding MULTI CONTROLbutton first to access).
These controls function according to the component you've selected.

TOP MENU
Displays the disc 'top' menu of a DVD.

DTV MENU
Displays menus on a digital TV.

AUDIO
Changes the audio language or channel with DVD discs.

MCACC SETUP
Use to setup your speaker system using the multi-channel acoustic calibration system.

MENU
Displays the disc menu of DVD-Video discs. It also displays TV and DTV menus.

INPUT ATT
Attenuates (lowers) the level of an analog input signal to prevent distortion.

T.EDIT
Use to memorize and name a station for recall using the STATION +/– buttons.

GUIDE
Displays the guides on a digital TV.

SUBTITLE
Displays/changes the subtitles included in multilingual DVD-Video discs.

SLEEP
Use to put the receiver in sleep mode and select the amount of time before the receiver turns off.

6 ⇦⇨⇩⇧ (TUNE +/–, ST +/–) /ENTER
Use the arrow buttons when setting up your surround sound system. Also used to control DVD menus/options and for deck 1 of a double cassette deck player. Use the TUNE +/– buttons to find radio frequencies and use ST +/– to find preset stations.

7 Component/Tuner control buttons
The main buttons (►, ■, etc.) are used to control a component after you have selected it using the MULTI CONTROL buttons. The tuner/DTV controls above these buttons can be accessed after you have selected the corresponding MULTI CONTROL button (TUNER or TV/SAT (when connected to DTV)).

RETURN
Returns to the last screen selected when using a digital TV tuner.

BAND DTV ON/OFF
Switches between the tuner AM and FM bands. Also switches a digital TV on/off.

DTV INFO
Use to bring up information screens on a digital TV.

DISPLAY
Use to switch the display between the station preset name and the frequency for the tuner.

CLASS
Switches between the three banks (classes) of radio station presets.

MPX
Switches between stereo and mono reception of FM broadcasts. If the signal is weak then switching to mono will improve the sound quality.

D.ACCESS
After pressing, you can access a radio station directly using the number buttons.

8 Number buttons
Use the number buttons to directly select a radio frequency or the tracks on a CD, DVD, etc.

9 CHANNEL +/–
Use to select channels when using a VCR, DVR, etc. Also use to skip tracks backward or forward on CDs, DVDs, etc.

10 INPUT SELECT
Use to select the input source.

11 LED
This lights when a command is sent from the remote control.

12 SOURCE ⏻
Press to turn on/off other components connected to the receiver.

13 DISC (ENTER)
The button's use depends on the component selected. It can be used to enter commands for TV or DTV, and can also be used to select a disc in a multi-CD player.

14 TV CONTROL buttons
These buttons are dedicated to control the TV assigned to the TV CONT button. Thus if you only have one TV to hook up to this system assign it to the TV CONT MULTI CONTROL button. If you have two TVs, assign the main TV to the TV CONT button.

⏻
Use to turn on/off the power of the TV.

(TV CONTROL) INPUT SELECT
Use select the TV function.

CHANNEL +/–
Use to select channels.

VOLUME +/–